

Service Manual

COMPACT
disc
DIGITAL AUDIO

DIGITAL

Compact Disc Player

SL-P555

Color

(K)... Black Type
(S)... Silver Type



Area

Country Code	Area	Color
(E)	Continental Europe.	(K) (S)
(EK)	United Kingdom.	(K) (S)
(XL)	Australia.	(K) (S)
(EG)	F.R. Germany.	(K) (S)
(EB)	Belgium.	(K) (S)
(EH)	Holland.	(K) (S)
(EF)	France.	(K) (S)
(EI)	Italy.	(K) (S)
(XA)	Asia, Latin America, Middle Near East, Africa and Oceania.	(K)
(XB)	Saudi Arabia.	(K)
(PA)	Far East PX.	(K)
(PE)	European Military.	(K)
(PC)	European Audio Club.	(K)

SPECIFICATIONS

■ Audio

No. of channels	2 (left and right, stereo)
Frequency response	2–20,000 Hz±0.3 dB
Output voltage	2 V (at 0 dB)
Dynamic range	98 dB
S/N ratio	100 dB
Harmonic distortion	0.002% (1 kHz, 0 dB)
Total harmonic distortion	0.0035% (1 kHz, 0 dB)
Wow and flutter	Below measurable limit
Output impedance	Approx. 600Ω
Load impedance	More than 10 kΩ
Headphone output level	15 mW max. 32Ω (adjustable)

■ Signal Format

Sampling frequency	44.1 kHz
D-A conversion	16-bit linear

■ Pickup

Wavelength	780 nm
------------	--------

■ General

Power supply

For Continental Europe: AC 50/60 Hz, 220 V

For United Kingdom and Australia: AC 50/60 Hz, 240 V

For others: AC 50/60 Hz, 110 V/127 V/220 V/240 V

Power consumption

11 W

Dimensions (W × H × D)

430 × 116 × 333 mm

Weight

5.2 kg

Specifications subject to change without notice.
Weight and dimensions shown are approximate.

Technics

Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288, Osaka 530-91, Japan

Panasonic Tokyo Sales Department
Matsushita Electric Industrial Co., Ltd.
World Trade Center Bldg., 4-1, Hamamatsu-cho,
2-chome, Minato-ku, Tokyo 105, Japan

CONTENTS

	Page		Page
PLACEMENT	2	TERMINAL FUNCTION OF IC's	20~25
ACCESSORIES	2	INTERNAL CONNECTION OF FL	26
PRECAUTION OF LASER DIODE	3	BLOCK DIAGRAM	27~29
CONNECTIONS	4	SCHEMATIC DIAGRAM	30~37
REMOTE CONTROL TRANSMITTER	4	TERMINAL GUIDE OF IC's, TRANSISTORS AND DIODES	38
LOCATION OF CONTROLS	5, 6	WIRING CONNECTION DIAGRAM	39
BASIC OPERATION	7, 8	PRINTED CIRCUIT BOARDS	40~44
CONVENIENT FUNCTIONS	9	TROUBLE SHOOTING GUIDE	45~47
HANDLING PRECAUTIONS FOR OPTICAL PICKUP	10	PACKING	48
INSTRUCTIONS FOR TRAVERSE OIL (Part No. SZZ0L31)	10	RESISTORS & CAPACITORS	49, 50
DISASSEMBLY INSTRUCTIONS	11~14	REPLACEMENT PARTS LIST	51~53
MEASUREMENTS AND ADJUSTMENTS	15~19	EXPLODED VIEW	54~56
NEW SERVO GAIN ADJUSTER (Servo Amp. Adjusting Fixture)	19	REPLACEMENT PARTS LIST	57
		EXPLODED VIEW	58

PLACEMENT

Before placement

The optical pickup is secured to prevent damage during transport. Be sure to release it before use.

(with inclination!)

Lock shaft (in the locked condition) → Pull to unlock.

Note:
When carrying this unit, be sure to remove the compact disc from inside the unit, and press the lock shaft to secure the optical pickup. (Make sure to place the unit with the rear panel facing downward.)

Notes of placement

- Place on a flat, level surface so that the front-rear inclination does not exceed 5°.
- Avoid places such as the following:
 - Near any equipment or device that generates strong magnetism.
 - On any heat-generating equipment or device, or in any place where the temperature is high (40°C or higher).
 - Extremely cold places (5°C or below).
 - Near a tuner or TV (It may cause noise in the broadcast, or disturbance of the TV picture.)
- Do not place heavy objects, other than system components, on top of the unit.
- When carrying or storing the unit, handle it with care so it is not subjected to any strong bumps.
Always remove the disc before storing the unit for any period of time.
- To avoid problems due to vibration.
 - Do not place a book or similar object under this unit.
 - Do not route the connection cables (of this or other units) across the operation panel, across the top, or under the unit.

ACCESSORIES

●AC power supply cord . . . 1
SJA187 (E, EG, EB, EH, EF, Ei)
SJA173 (XL)
SJA193 (EK)
SJA168-1 (XA, PA, PE, PC)
SJA183 (XB)

●Stereo connection cable 1
(SJP2249-3)

●Remote control transmitter 1
(EUR64766)...Black type
(EUR64767)...Silver type

●Batteries 2
UM-4NEP/2S (XL)
UM-4NE/2S (Others)

PRECAUTION OF LASER DIODE

CAUTION: This product utilizes a laser diode with the unit turned “on”, invisible laser radiation is emitted from the pick up lens.
Wave length: 780nm
Maximum output radiation power from pick up: 100μW/VDE

Laser radiation from the pick up lens is safety level, but be sure the followings:

1. Do not disassemble the optical pick up unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pickup unit. It was already adjusted.
3. Do not look at the focus lens using optical instruments.
4. Recommend not to look at pick up lens for a long time.

ACHTUNG: Dieses produkt enthält eine laserdioden. Im eingeschalteten zustand wird unsichtbare laserstrahlung von der lasereinheit abgestrahlt.

Wellenlänge: 780nm
Maximale strahlungsleistung der lasereinheit: 100μW/VDE

Die strahlung an der lasereinheit ist ungefährlich, wenn folgende punkte beachtet werden:

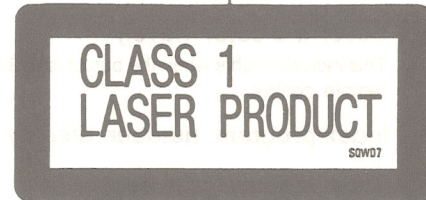
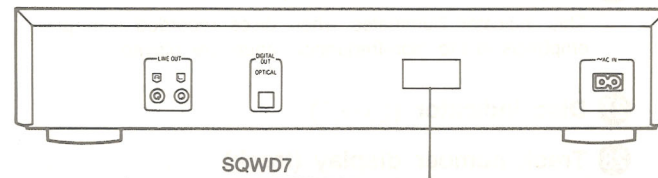
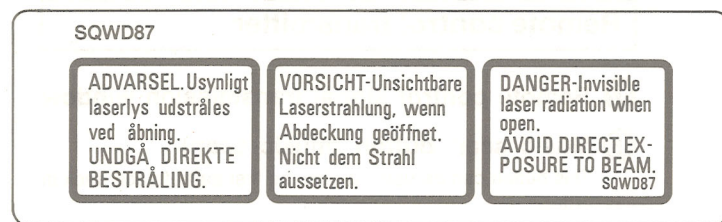
1. Die lasereinheit nicht zerlegen, da die strahlung an der freigelegten laserdioden gefährlich ist.
2. Den werksseitig justierten einstellregler der lasereinheit nicht verstellen.
3. Nicht mit optischen instrumenten in die fokussierlinse blicken.
4. Nicht über längere zeit in die fokussierlinse blicken.

ADVARSEL: I dette a apparat anvendes laser.

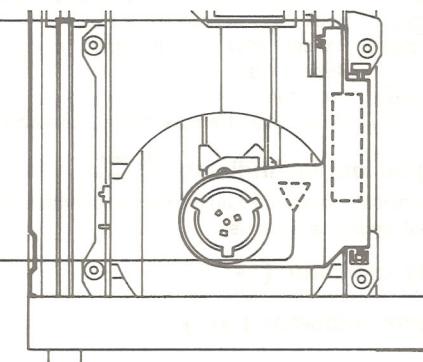
• Use of caution labels

Note: ○ Mark is used, × Mark is not used.

Areas	SQWD7	SQWD87	SQWD19
(PA, PE, PC)	×	○	○
Others	○	○	○



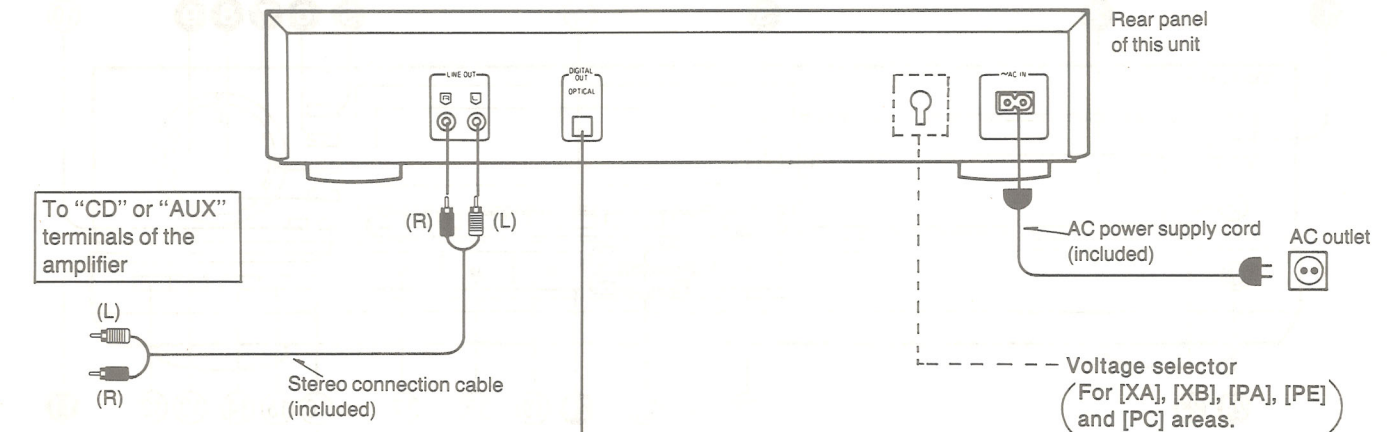
Obs:
Apparaten innehåller laser
Komponent av höger laserklass
än klass 1.



VAROITUS! Laite sisältää laserdiodin, joka lähettää näkymätöntä silmille vaarallista lasersäteilyä

CONNECTIONS

Turn power off on all components before making connections.



•Optical output terminal (DIGITAL OUT/OPTICAL)

This terminal can be used for connection with other equipment that has a digital input terminal, such as an amplifier, by using an optical cable (optional). A dust-protection cap is inserted in this terminal. Remove this cap only when a connection is to be made to this terminal.

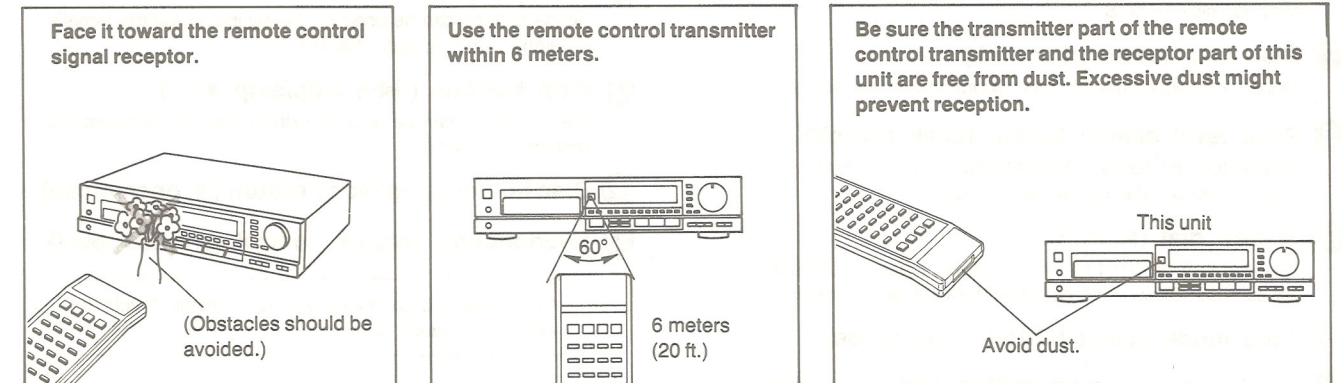
Note:

The configuration of the AC outlet and AC power supply cord differs according to area.

REMOTE CONTROL TRANSMITTER

Remote control transmitter operation notes

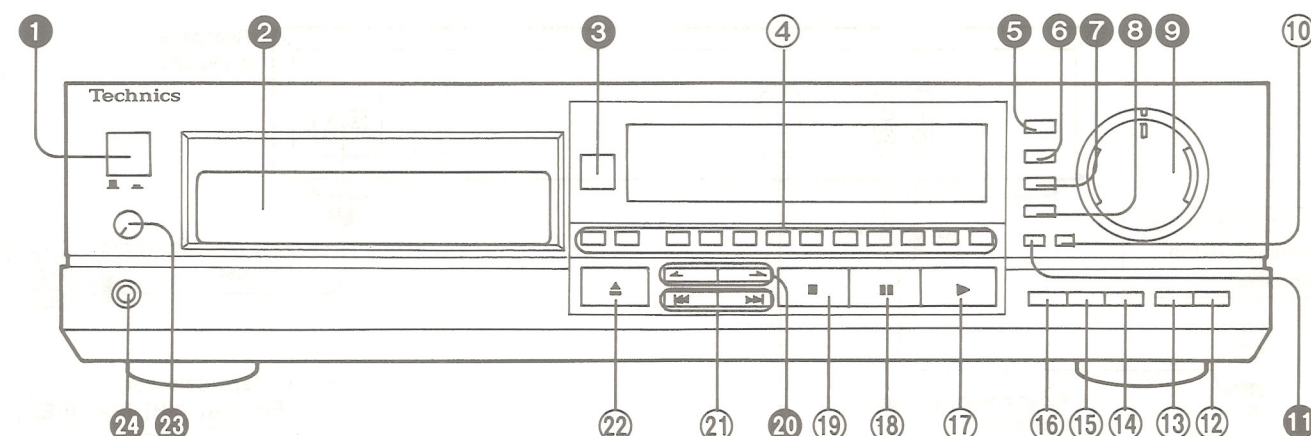
Note that operation may not be correct if direct sunlight or other strong light strikes the remote control signal receptor part of this unit. If there is a problem, place the unit away from the direct sunlight or other strong light source.



Note: The control panel of the remote control transmitter may be covered by a clear plastic protective sheet. This sheet may be removed if desired.

LOCATION OF CONTROLS

The functions indicated by the black numbers (with white background, ④ etc.) can also be activated using the remote control transmitter.



Control section

① Power switch (power)

If a disc has already been loaded, play will begin when the power is turned ON.

② Disc holder

③ Remote control signal sensor (remote sensor)

④ Numeric buttons (+10, 0, 1~10)

⑤ Edit tape length button (edit tape length)

When compact discs are to be recorded to tape, this button can be used to calculate the number of tracks that can be recorded on each side of the tape, depending on the length of the cassette tape used, so that as little tape as possible is wasted.

⑥ Tape-side select button (side A/B)

When recording compact discs to tape, this button can be used to check the number of tracks and amount of tape left over for side A or B.

⑦ Disc link button (disc link)

This button can be used for edit recording from several discs.

⑧ Peak level search button (peak search)

This button can be used to locate the maximum signal level (peak level) for the signals on the disc.

⑨ Search dial (search)

This dial can be used to locate specific places on the disc during play at high speed, either forward or reverse.

⑩ Time mode select button (time mode)

⑪ Display mode select button (display mode)

⑫ Auto cue button (auto cue)

Pressing this button causes the unit to skip automatically to the beginning of the next track on the disc and switch to the play standby mode.

⑬ Repeat button (repeat)

⑭ Recall button (recall)

This button can be used to display the contents of the programmed track sequence for confirmation.

⑮ Clear button (clear)

This button can be used to clear tracks from the programmed sequence one at a time.

⑯ Programmed-play button (program)

Pressing this button initiates the programmed play mode. You can then enter specific tracks using the numeric buttons.

⑰ Play button (▶ play)

⑱ Pause button (⏸ pause)

⑲ Stop button (■ stop)

This button can be used to stop disc play, as well as to cancel the various play modes.

⑳ Index skip buttons (←index/index→)

These buttons can be used to skip by index number (smaller divisions within specific tracks).

㉑ Skip buttons (⏮ skip/skip ⏭)

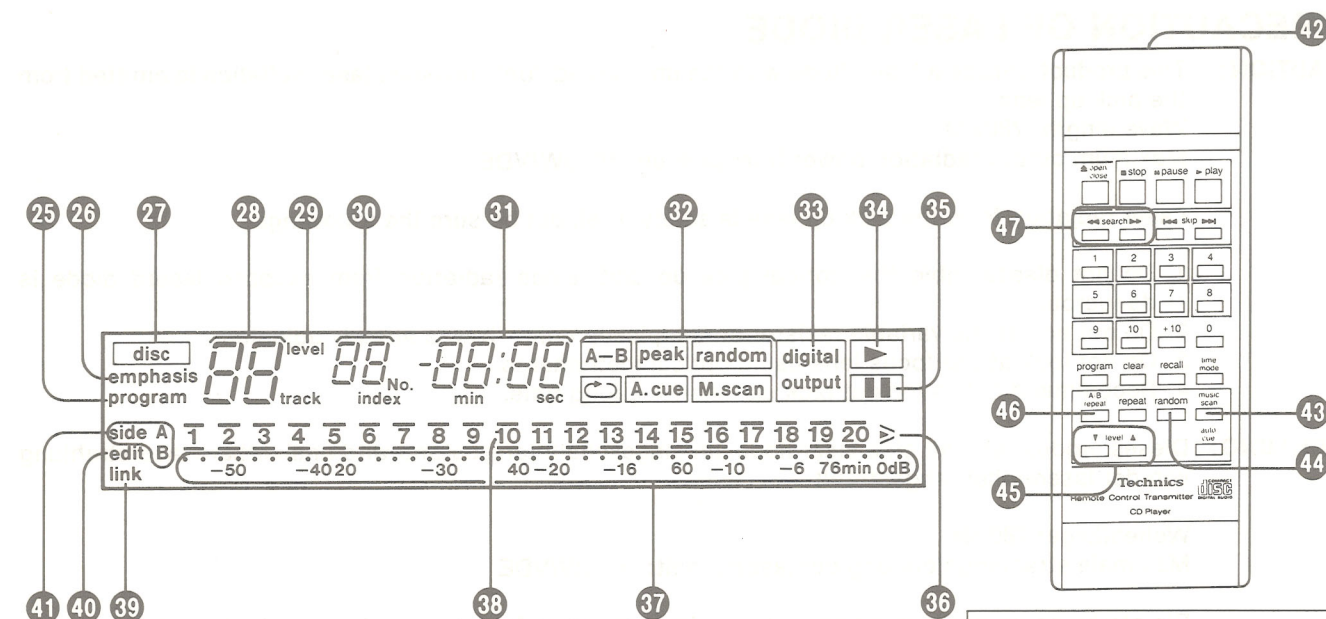
These buttons can be used to skip by track in the forward or reverse direction.

㉒ Disc holder open/close button (⏏ open/close)

㉓ Headphones volume control (phones level)

Avoid listening to music at high volume levels for extended periods of time.

㉔ Headphones jack (phones)



Unnumbered buttons on the remote control transmitter function identically to their corresponding parts on the unit.

Indicators section

㉕ Programmed-play indicator (program)

㉖ Emphasis indicator (emphasis)

This indicator illuminates when discs recorded with pre-emphasis in the high-frequency range are played.

㉗ Disc indicator (disc)

㉘ Track number display (track)

㉙ Level indicator (level)

This indicator lights when the output level is attenuated by the remote control.

㉚ Index/program number display (index/No.)

㉛ Time display (min/sec)

㉜ Operation indicators

The following indicators light during their respective operations.

A-B:	A-B repeat play (remote control operation)
peak:	Peak level search
random:	Random play (remote control operation)
⏮:	Repeat play
A.cue:	Auto cue
M. scan:	Music scan (remote control operation)

㉝ Digital output indicator (digital output)

This indicator illuminates during normal operation to show that digital output is possible.

㉞ Play indicator (▶)

㉟ Pause indicator (⏸)

㊱ "Over" mark (≥)

This indicator lights if the total number of tracks on the disc is 21 or more.

㊲ Play position/output level indicator

This indicator toggles between its 2 modes each time the display mode select button is pressed.

㊳ Track number indicator (1~20)

㊴ Disc link indicator (link)

㊵ Compact disc edit indicator (edit)

㊶ Tape side indicator (side A/B)

Remote control transmitter

㊷ Remote control signal transmission window

㊸ Music scan button (music scan)

This button can be used to play the first part of each track in order.

㊹ Random play button (random)

This button can be used to play the tracks on a disc in a random sequence.

㊺ Level buttons (▼ level ▲)

These buttons can be used to control output level (from 0 dB to -12 dB), except for digital output.

㊻ A-B repeat button (A-B repeat)

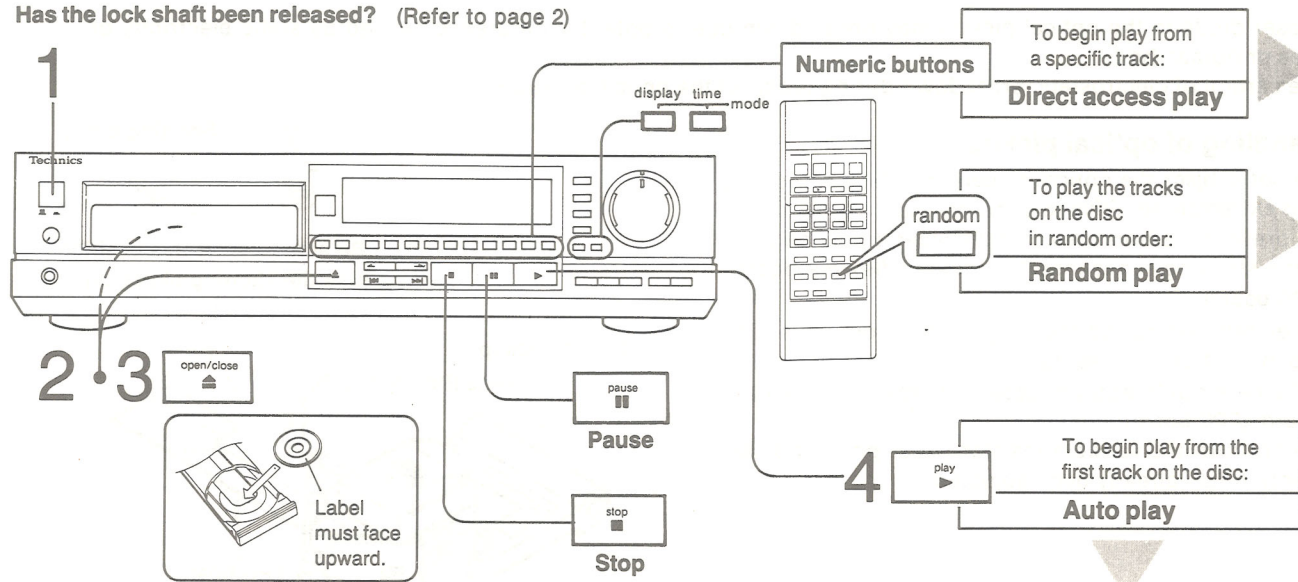
This button can be used to play the portion of a disc between two points (A and B) chosen by you.

㊼ Search buttons (◀ search ▶)

These buttons can be used to move rapidly forward or backward on the disc during play. The search speed is slow when the button is pressed at first and becomes faster if the button is pressed and held continuously.

BASIC OPERATION

Has the lock shaft been released? (Refer to page 2)



Auto play

Playing an entire disc from the first track to the last.

Basic operations such as turning the power ON and OFF are the same for the other play modes as well.

1 Press the power switch to turn power ON.

Turn down your amplifier volume first. If, inadvertently, the volume is set too loud, damage to your speakers could result.

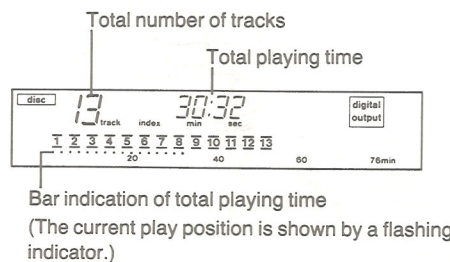
Auto-start function

If a disc has already been loaded into the disc holder, play will begin right away when the power is turned ON. This is for timer play.

2 Press the open/close button to open the disc holder and insert a disc.

3 Press the open/close button again to close the disc holder.

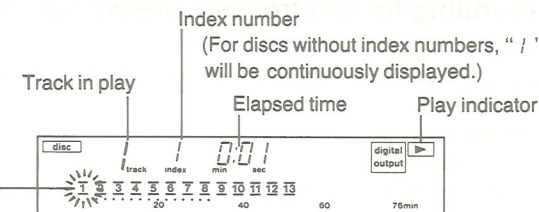
The total number of tracks on the disc and the total playing time are displayed.



Bar indication of total playing time
(The current play position is shown by a flashing indicator.)

4 Press the play button.

Disc play begins from the first track on the disc.



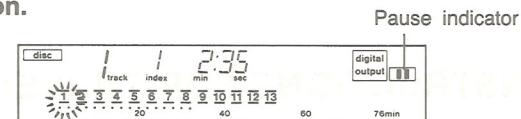
The bars above and below the number of the track in play flash. They go out when play finishes.

- The unit stops automatically when the last track on the disc finishes playing. (The display returns to the total number of tracks and total playing time indications.)
- Switch power OFF when finished.

•To stop disc play, press the stop button.

The unit switches to the stop mode and the total number of tracks and total playing time are displayed.

•To temporarily stop disc play, press the pause button.



•Press the play button to play again.

Notes:

- Attempting to change discs while the disc holder is in the process of opening can scratch or damage your discs.
- Before attempting to use the remote control transmitter to open the disc holder, make sure that there are no obstructions in front of the unit (the closed glass door of an audio rack, etc.)
- The total playing time displayed includes the silent sections between tracks. For this reason, it may differ by a few seconds from the playing time printed in the disc's liner notes.

Direct access play

To listen to a disc from track 3, press the numeric button **3**. Play begins directly from track 3.

Choosing a specific track

Tracks 1-10: Press the appropriate numeric button **1** - **10** directly.

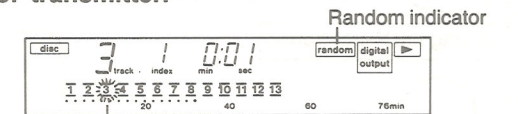
Tracks 11 and up: First press **+10**, then **0** - **9**.
(Press **+10** twice for 20, three times for 30, and so on.)

- Playback begins from the track selected and continues from subsequent tracks until the end of the disc is reached.
- The unit stops automatically when the last track on the disc finishes playing.

Random play (by the remote control transmitter only)

All the tracks on the disc are played in a new, randomly selected order. The order is different every time. Listening to tracks in a different order can be a refreshing change of pace.

Press the random play button on the remote control transmitter.



When play begins from track 3
(The bars above and below the number of the track in play flash. They go out when play finishes.)

- The unit stops automatically when all the tracks on the disc finish playing.

•To cancel random play while a disc is playing, press the random play button again.

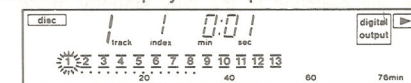
When the track in play finishes playing, play continues from subsequent tracks in the normal order until the end of the disc is reached.

Changing the indications of the time mode display and bar indication.

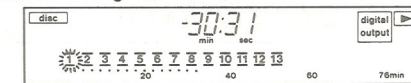
Time display

Each time the time mode select button is pressed during play or when the unit is in the pause mode switches the display among the following modes.

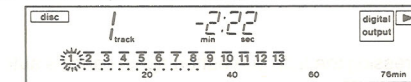
Number of track in play and elapsed time



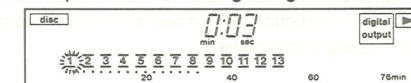
*Total remaining time on disc



Time remaining in track in play



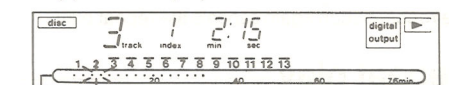
*Total elapsed time since beginning of disc



Bar indication

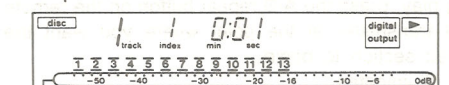
Pressing the display mode select button switches the play position display to an output level meter. (Press the display mode select button again to switch back.)

Play position display



The place on the disc which is currently playing is shown by a flashing indicator. (min=minutes)

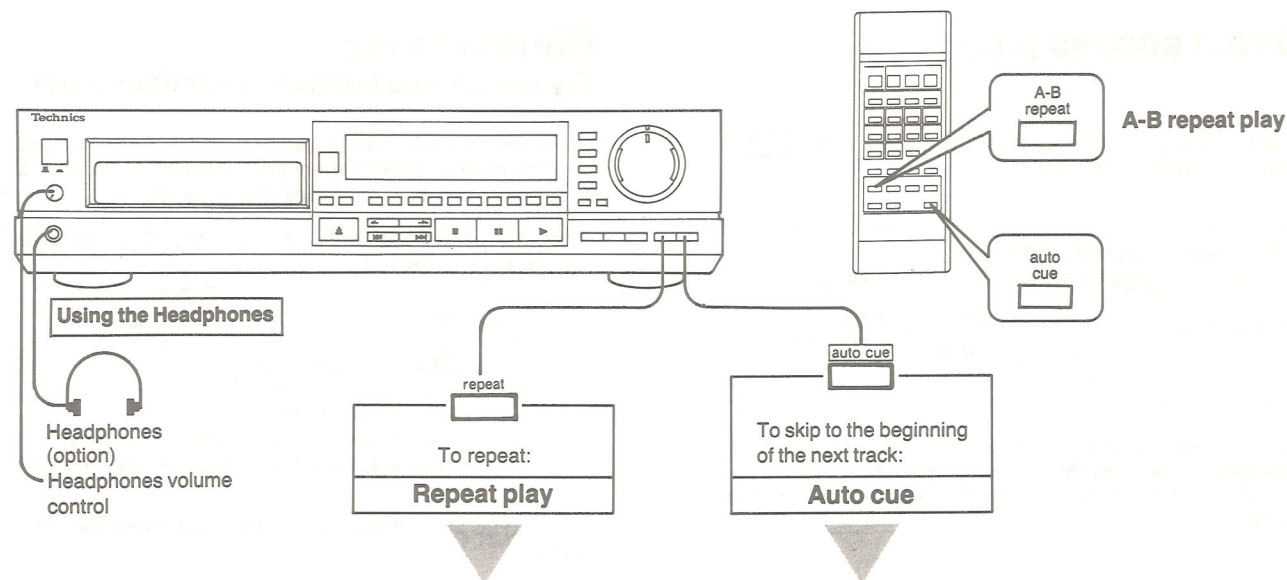
Output level meter



The output level of the channel, left or right, which is higher is displayed. (dB=decibel)

*not displayed during random play

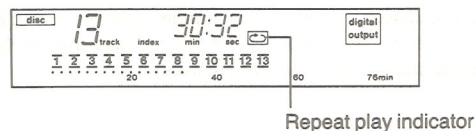
CONVENIENT FUNCTIONS



Repeat play

This function allows you to repeat the entire disc or the tracks in the programmed sequence.

Press the repeat button.



Pressing the repeat button again cancels the repeat play.

A-B repeat play (by the remote control transmitter only)

You can specify the beginning point (A) and the ending point (B) of the section to be repeated and repeat only that section.

- During play, press the A-B repeat button on the remote control transmitter at the point where you want the repeated section to begin.
 - A- illuminates.
- Press the A-B repeat button again at the point where you want the repeated section to end.
 - A-B and B- illuminate. A-B repeat play starts.
 - Pressing the A-B repeat button again cancels A-B repeat.

Cue memory function

If specified only point (A) by pressing the A-B repeat button, that point (A) will be in memory. During play, if pressing the play button, play starts from the point (A) again.

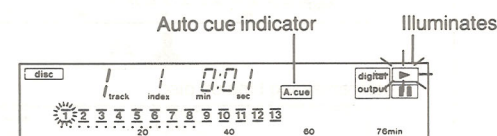
Auto cue

The auto cue function allows the unit to wait in the standby condition at the beginning of each tune so as to start play right when you are ready. When each tune finishes playing the unit skips to the beginning of the next tune and switches to the play standby mode. This function is especially convenient when used together with programmed play.

1 Press the auto cue button.

2 Press the play button.

The unit switches to the play standby mode.



3 Press the play button again to start play.

Pressing the auto cue button again cancels auto cue.

Note:

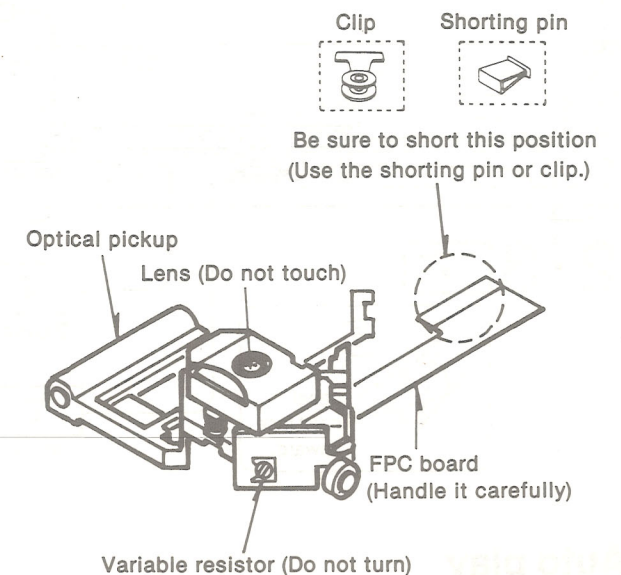
The auto cue function may not function at the beginning of tune properly if a selection begins with a very soft passage or if there is a lot of background noise.

HANDLING PRECAUTIONS FOR OPTICAL PICKUP

The laser diode in the optical pickup may break down due to potential difference caused by static electricity of clothes or human body. So, be careful of electrostatic breakdown during repair of the optical pickup.

Handling of optical pickup

- Do not subject the optical pickup to static electricity as it is extremely sensitive to electrical shock.
- To prevent the breakdown of the laser diode, an anti-static shorting pin is inserted into the flexible board. (FPC board)
When removing or connecting the short pin, finish the job in as short time as possible.
- Take care not to apply excessive stress to the flexible board. (FPC board)
- Do not turn the variable resistor (laser power adjustment). It has already been adjusted.

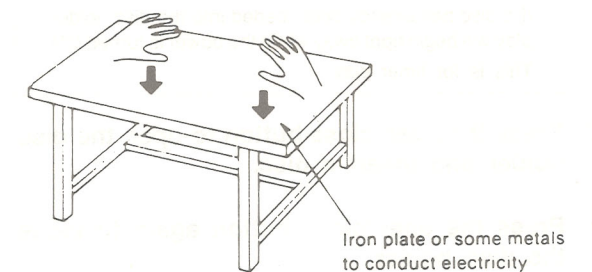
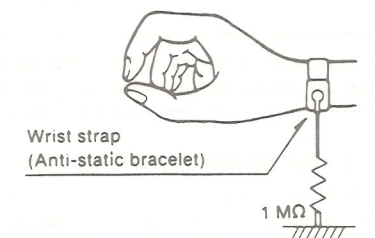


Grounding for electrostatic breakdown prevention

- Human body grounding
Use the anti-static wrist strap to discharge the static electricity from your body.
- Work table grounding
Put a conductive material (sheet) or steel sheet on the area where the optical pickup is placed, and ground the sheet.

Caution:

The static electricity of your clothes will not be grounded through the wrist strap. So, take care not to let your clothes touch the optical pickup.

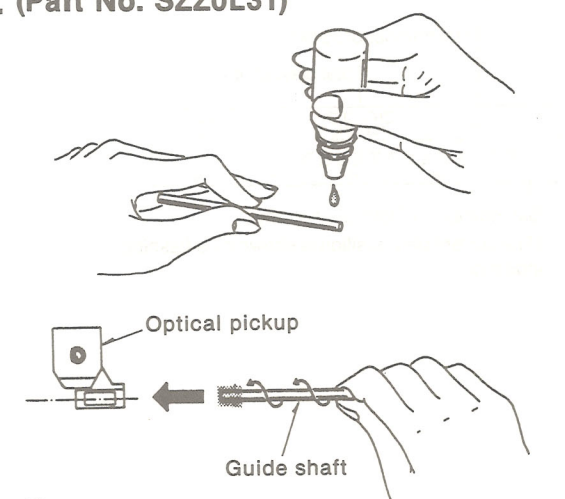


INSTRUCTIONS FOR TRAVERSE OIL (Part No. SZZ0L31)

The container contains 6g (approx. 3ml) of oil. One application (one shaft) uses 0.05ml of oil.

How to Use

- Remove the guide shaft in the traverse deck from the optical pickup and clean off any dust from the guide shaft.
- Apply one drop of the SZZ0L31 to the tip of the guide shaft.
- Hold the guide shaft so that its oiled end touches the optical pickup and insert it into the bearing while rotating it slowly.
- After securing the guide shaft, move the optical pickup by hand several times to the left and right to distribute the oil on the guide shaft.



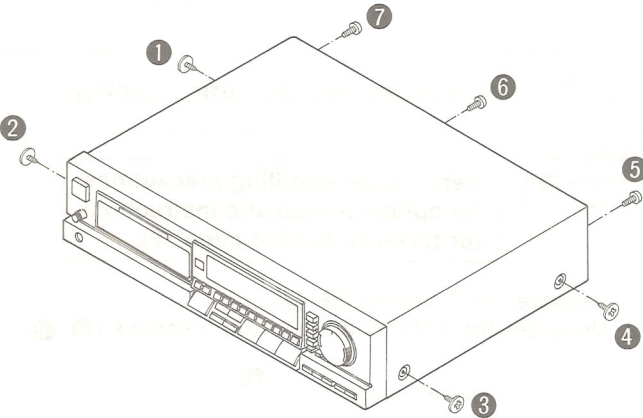
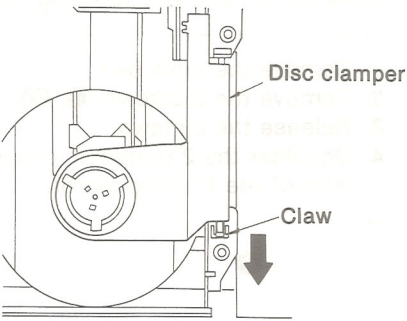
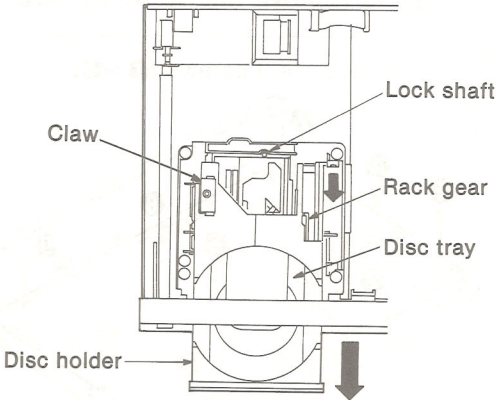
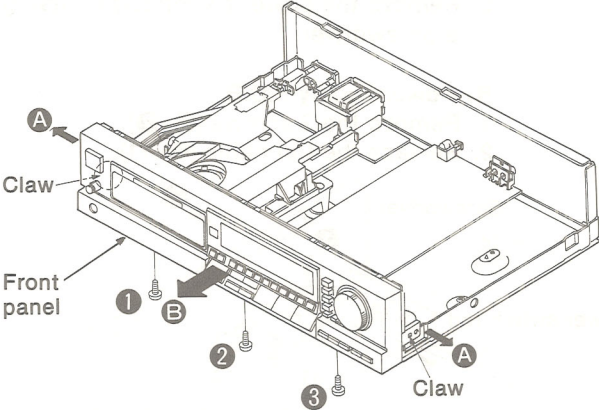
DISASSEMBLY INSTRUCTIONS

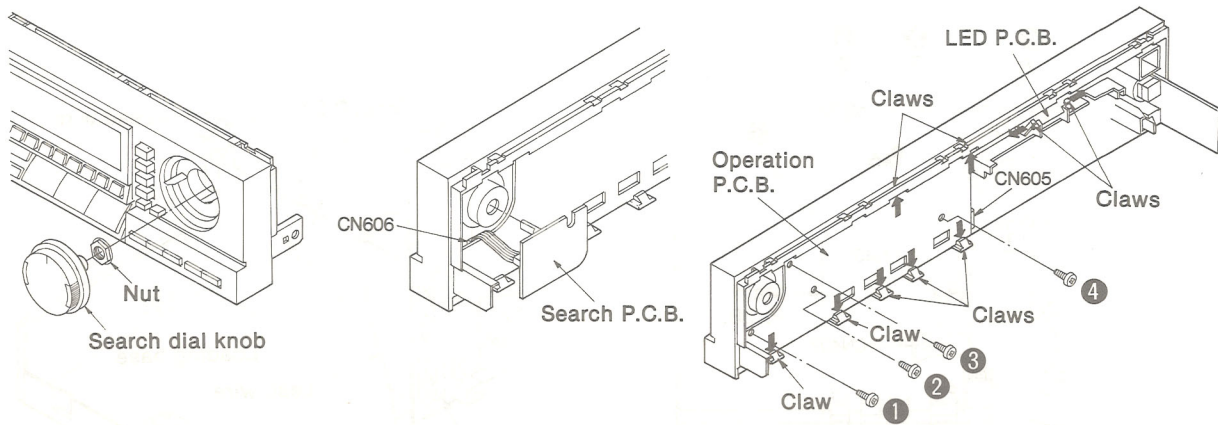
Warning: This product uses a laser diodes. Refer to caution statements on page 3.

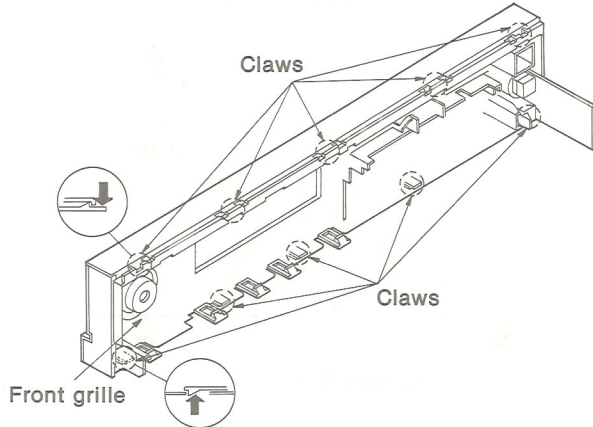
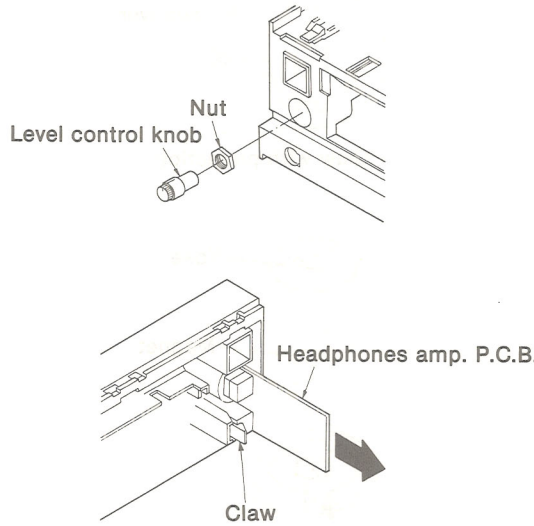
ACHTUNG:

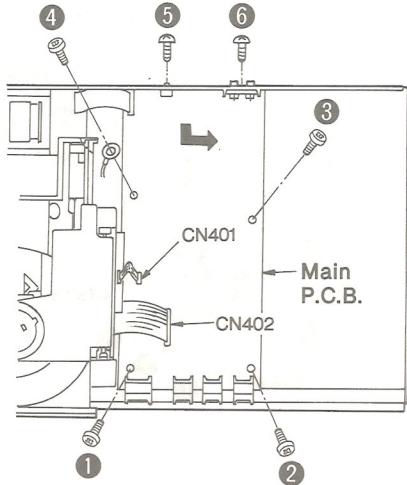
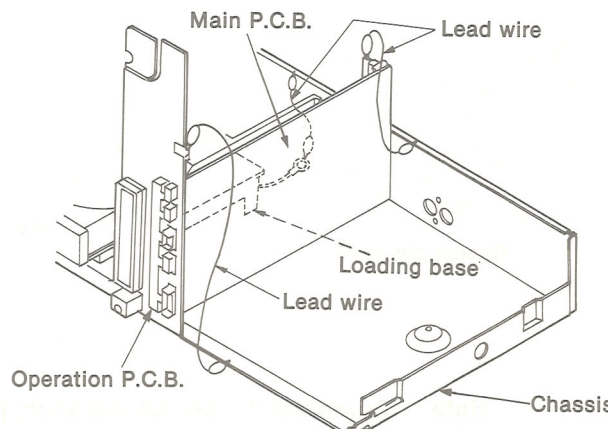
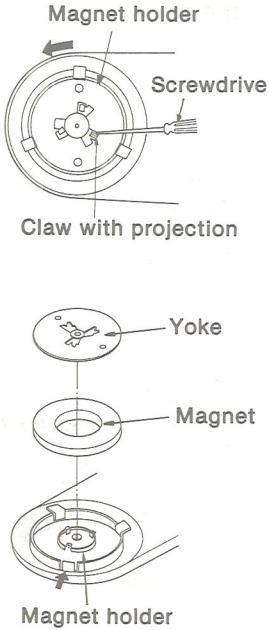
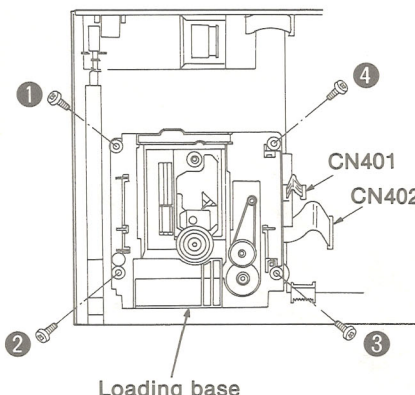
- Die Lasereinheit nicht zerlegen.
- Die Lasereinheit darf nur gegen eine vom hersteller spezifizierte einheit ausgetauscht werden.

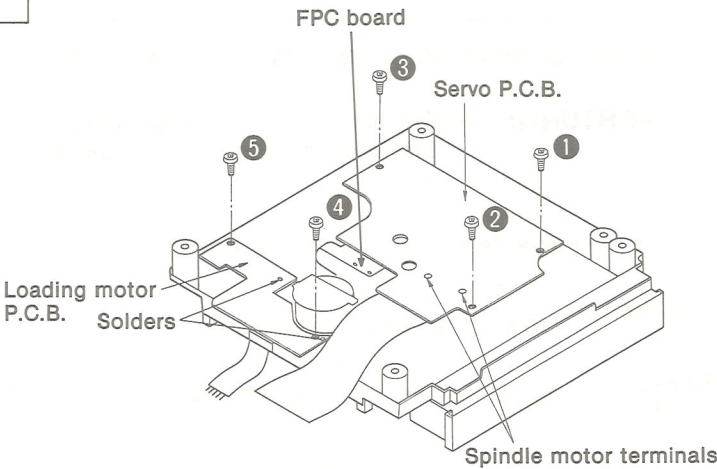
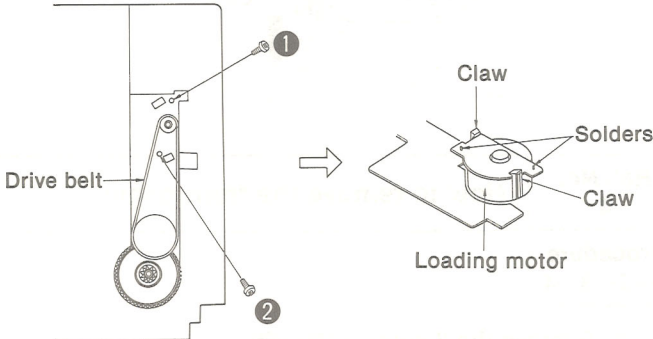
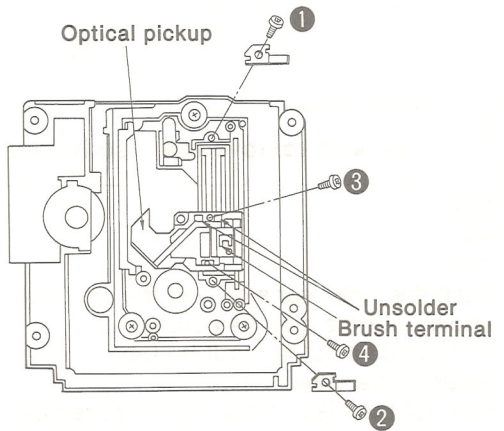
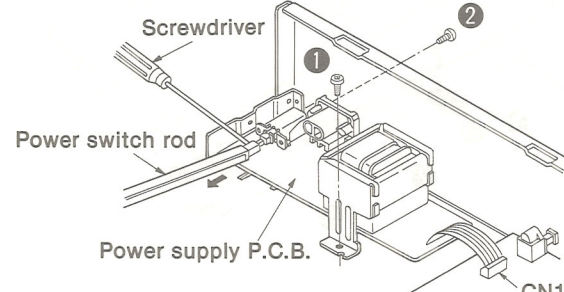
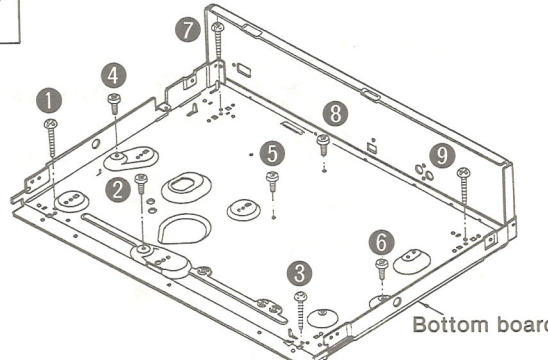
* This CD player is equipped with FPC boards, so handle them with care during disassembly and reassembly.

Ref. No. 1	How to remove the cabinet	Ref. No. 2	How to remove the disc clamber
Procedure 1	1. Remove the 7 screws (①~⑦).	Procedure 1→2	1. Push the claw in the direction of the arrow and remove the disc clamber.
			
Ref. No. 3	How to remove the disc holder	Ref. No. 4	How to remove the front panel
Procedure 1→2→3	1. Push the rack gear slowly in the direction of the arrow until the disc tray comes up. 2. Pull the disc holder until it stops. 3. Release the claw. 4. Pull out the disc holder further to remove it. Note: Make sure to release the lock shaft.	Procedure 1→2→3→4	1. Remove the 3 screws (①~③). 2. Slightly pull out the 2 claws in the direction of the arrow A. 3. Remove the front panel in the direction of the arrow B.
			

Ref. No. 5	How to remove the search P.C.B., LED P.C.B. and operation P.C.B.		
Procedure 1→2→3 →4→5	A. Search P.C.B. 1. Remove the search dial knob and nut. 2. Remove the connector (CN606). B. LED P.C.B 1. Push the 2 claws in the direction of the arrow.	C. Operation P.C.B. 1. Remove the 4 screws (①~④). 2. Remove the connector (CN605). 3. Push the 7 claws in the direction of the arrow.	
			
Note: To remove the search dial knob, push it with a screwdriver through the front panel's back opening.			

Ref. No. 6	How to remove the front grille	Ref. No. 7	How to remove the headphones amp. P.C.B.
Procedure 5→6	1. Push the 10 claws in the direction of the arrow and remove the front grille.	Procedure 5→6→7	1. Remove the level control knob and nut. 2. Release the claw. 3. Remove the headphones amp. P.C.B. in the direction of the arrow.
			

Ref. No. 8	How to remove the main P.C.B.	How to check the main P.C.B.	
Procedure 1→2→3 →4→8	1. Remove the 6 screws (①~⑥). 2. Lift the main P.C.B. off the retention posts on the chassis. 3. Remove the main P.C.B. in the direction of the arrow. 	• When checking the soldered surface of the main P.C.B. and replacing the parts, do as shown. 1. Connect the main P.C.B. ground terminal (LINE OUT terminal) to the chassis with a lead wire. 2. Connect the loading base grounding terminal to the chassis with a lead wire. 3. Connect the operation P.C.B. ground terminal to the chassis with a lead wire. 	
Ref. No. 9	How to remove the magnet and holder	Ref. No. 10	How to remove the loading base
Procedure 1→2→9	1. While lifting the claw with a screwdriver, rotate magnet holder in the direction of the arrow and remove the yoke and magnet. 2. Release the claw of the magnet holder. 	Procedure 1→2→3 →4→10	1. Remove the 4 screws (①~④). 2. Remove the 2 flat cables (CN401, CN402). 

Ref. No. 11	How to remove the servo P.C.B. and loading motor P.C.B.		
Procedure 10→11	A. Servo P.C.B. 1. Remove the 3 screws (①~③). 2. Unsolder the 2 terminals of spindle motor. 3. Remove the FPC board from the optical pickup. Caution: To prevent the breakdown of the laser diode, antistatic shorting pin is inserted into the FPC board. B. Loading motor P.C.B. 1. Remove the 2 screws (④, ⑤). 2. Unsolder the 2 terminals of loading motor.		
Ref. No. 12	How to remove the loading motor	Ref. No. 13	How to remove the optical pickup
Procedure 10→12	1. Remove the drive belt. 2. Remove the 2 screws (①, ②). 3. Release the 2 claws. 4. Unsolder the 2 terminals of the lead wire of the loading motor. 	Procedure 10→11→13	Refer to the handling precautions for optical pickup and instructions for traverse oil (See page 10). 1. Remove the 2 screws (①, ②) 2. Unsolder the 2 terminals and the 2 screws (③, ④). 
Ref. No. 14	How to remove the power switch rod and power supply P.C.B.	Caution: Take care not to touch the brush terminal.	
Procedure 1→14	A. Power switch rod 1. Set the power switch in the "OFF" position. 2. Remove the power switch rod by using a screwdriver. B. Power supply P.C.B. 1. Remove the 2 screws (①, ②). 2. Release the flat cable (CN11). 	Ref. No. 15	
		Procedure 8→10→14 →15	How to remove the bottom board
			1. Remove the 9 screws (①~⑨). 

MEASUREMENTS AND ADJUSTMENTS

Caution:

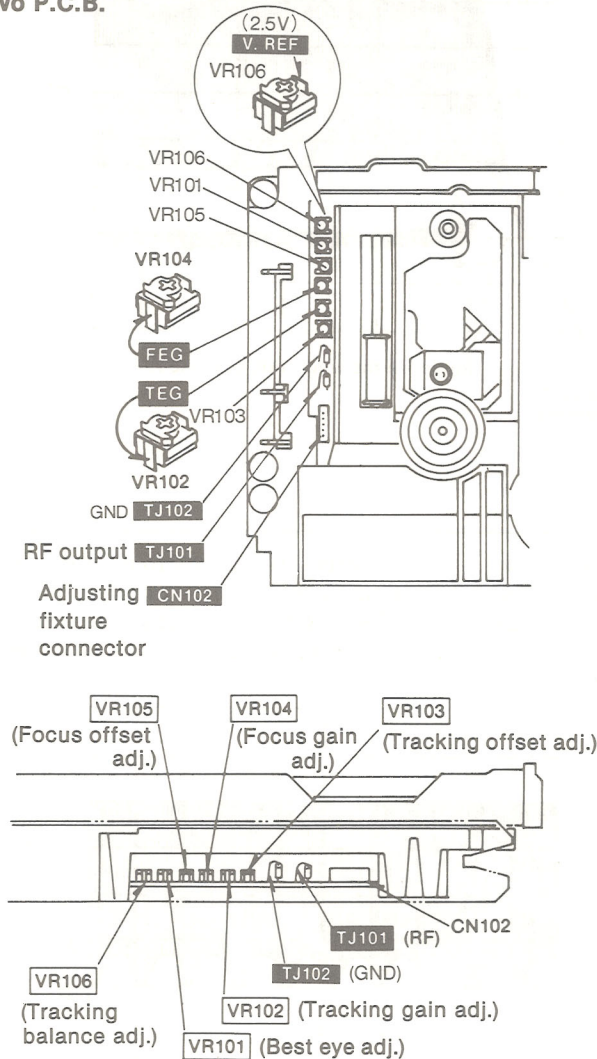
- It is very dangerous to look at or touch the laser beam. (Laser radiation is invisible.) With the unit turned "on", laser radiation is emitted from the pickup lens. Avoid exposure to the laser beam, especially when performing adjustments.

PREPARATION

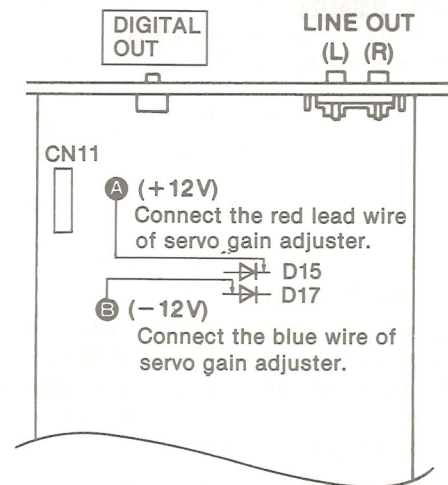
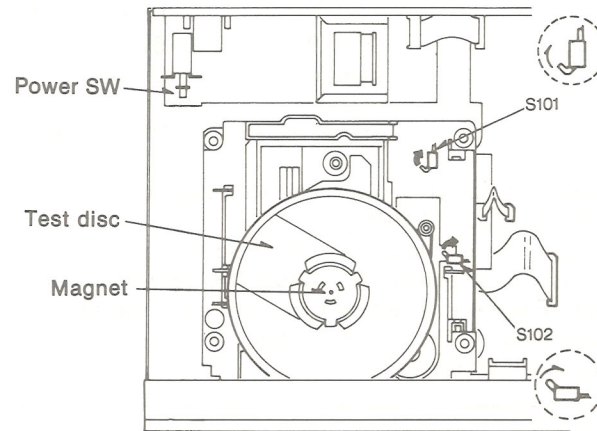
- Remove the cabinet (see Ref. No. 1 of the disassembly instructions).
- Remove the disc clamber and magnet (see Ref. No. 2 and No. 9 of the same).
- Remove the disc holder and power switch rod (see Ref. No. 3 and No. 14 of the same).
- Place the test disc and magnet on the turntable.
- While holding the Open/Close switches (S101, S102) in the directions indicated by the arrows, switch the player power ON.
- After the test disc starts rotating, release the Open/Close switch (S101, S102).

ADJUSTMENT POINTS

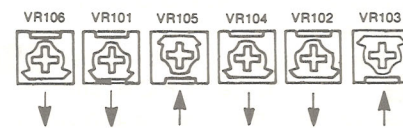
• Servo P.C.B.



• Main P.C.B.



• Temporary setting of each VR



(Temporary VR setting if any of the trimmer VRs are replaced or require readjustment, temporarily set them to the following positions.)

Measuring Instruments and Special Tools

- Servo gain adjuster (SZZP1017F or SZZP1094C) ...Refer to page 19.
- Test discs
 - Playability test disc (SZZP1054C or SZZP1014F)
 - Uneven test disc (SZZP1056C)
 - Black band test disc (SZZP1057C)
- Normal disc
- Dual-beam oscilloscope with bandwidth of 30MHz or better (with EXT trigger and 1:1 probe).
- Audio frequency (AF) oscillator

- Conversion connector (SZZP1032F)
- Allen wrench (M2.0)
- Allen wrench (M1.27)
- 0.9mm clearance gauge (RZZ0297)

As to the replacement of the following parts, refer to the specified sections for adjustment:

- Spindle motor Sections (1), (3) to (8)
- Turntable Sections (1), (3) to (8)
- Optical pickup Sections (2) to (8)

Adjusting Procedure

- If you have replaced the spindle motor or turntable, perform the following adjustment:

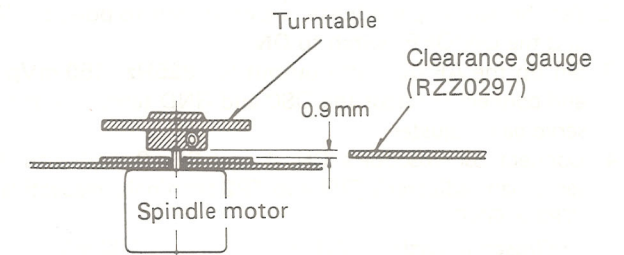
(1) TURNTABLE HEIGHT ADJUSTMENT

- Insert the 0.9mm clearance gauge (RZZ0297) between the turntable and the loading base (see the figure at right).
- Tighten the turntable retention screw with the 1.27mm allen wrench.
- Connect the oscilloscope's CH. 1 probe across VR104's **FEG** (+) and VR106's **V. REF** (−) terminals. (Note: A voltage of 2.5V appears at the V. REF terminal. Take care not to short the player's chassis to the oscilloscope ground.)

Oscilloscope setting: VOLT 50 mV
SWEEP 1 ms.
Input coupling ... DC

- Adjust oscilloscope's DC zero balance.
- Switch the player power ON, and play the test disc (SZZP1014F or SZZP1054C).
- Measure the DC level displayed on the oscilloscope.

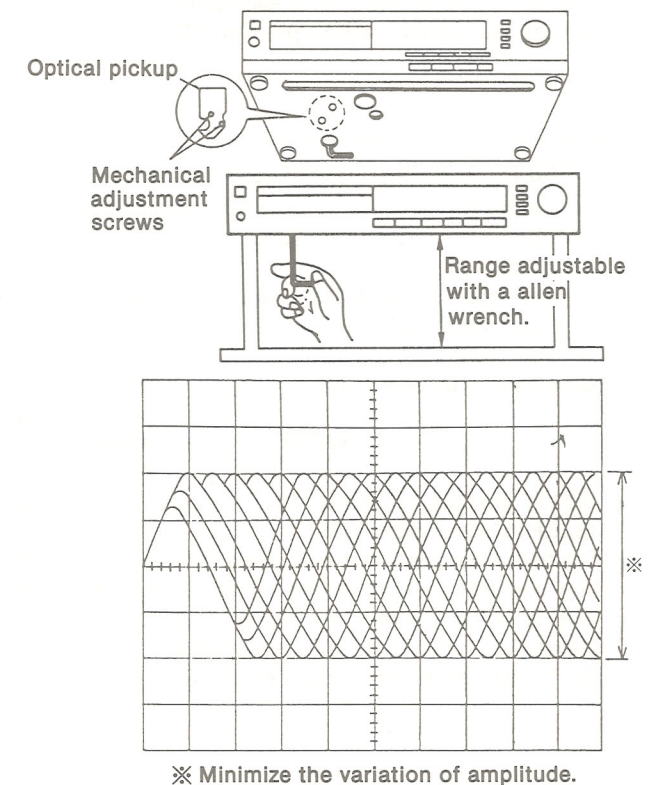
Note 1. If the measured amplitude is within a range of ± 15 mV, the turntable height is correct. If it is outside this range, adjust the turntable height by using the clearance gauge as a pry.
If the amplitude exceeds +15 mV, lower turntable.
If the amplitude is below −15 mV, elevate the turntable.



Note 2. If the measured amplitude greatly surpasses or falls short of the range above, set VR105 at or around the center, then try to adjust the height again. (Then be sure to adjust the focus offset as well.)

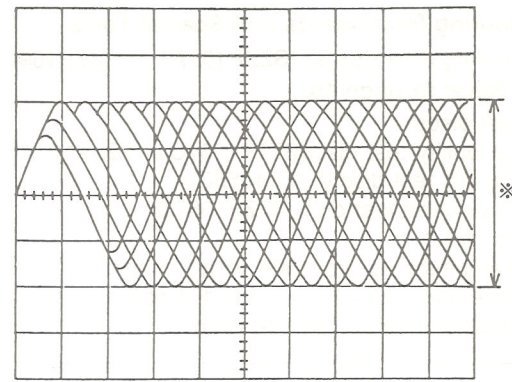
(2) MECHANICAL ADJUSTMENT

- Connect the oscilloscope's CH. 1 probe across **TJ101** (+) and **TJ102** (−) on the Servo P.C.B.
Oscilloscope setting: VOLT 100 mV
SWEEP 0.5 μ s.
Input coupling ... AC
- Switch the player power ON, and play track 9 on the test disc (SZZP1056C). (Playing any other track may yield a false adjustment.)
- Leave the player in Play mode, and place it as shown in the figure on the right.
- Alternately adjust the two mechanical adjusting screws with the 2.0mm allen wrench until the RF signal amplitude variation on the oscilloscope is minimized.
- After completing the adjustment, lock the **mechanical adjustments** with lock paint (RZZOL01).



(3) BEST EYE (PD BALANCE) ADJUSTMENT

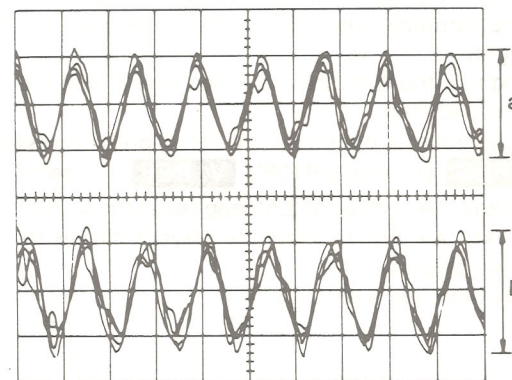
1. Connect the oscilloscope's CH. 1 probe across **TJ101** (+) and **TJ102** (–) on the Servo P.C.B.
Oscilloscope setting: VOLT 200 mV
 SWEEP 0.5 μ s.
 Input coupling . . . AC
2. Switch the player power **ON**, and play the 0.5 mm black dot on the test disc (SZZP1014F or SZZP1054C).
3. Adjust **VR101** until the RF signal eye pattern amplitude is maximized.



※ Maximize the amplitude.

(4) FOCUS GAIN ADJUSTMENT

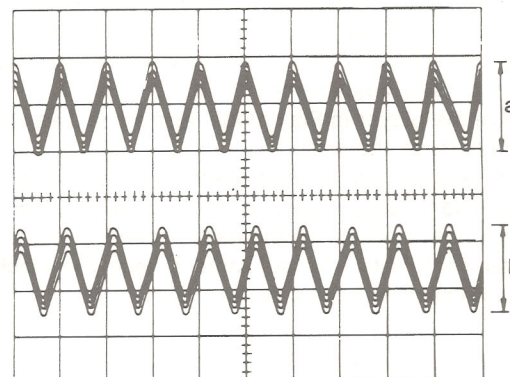
1. Connect the servo gain adjuster to the player (see page 19).
2. Set the servo gain adjuster's gain switch to position "2" and the ON/OFF switch to **ON**.
3. Set up the AF oscillator output for **825 Hz, 150 mVp-p**, and connect it across the OSC and GND terminals on the servo gain adjuster.
4. Connect oscilloscope's CH. 1 and CH. 2 probes to the servo gain adjuster's TP1 and TP2 terminals, respectively (TP3 is GND).
Oscilloscope setting: VOLT 100 mV
 (both channels)
 SWEEP 1 ms.
 Input coupling . . . AC
5. Play the test disc (SZZP1014F or SZZP1054C).
6. Set the servo gain adjuster's gain switch to position "3", and you will see a 825 Hz signal on the oscilloscope. Adjust **VR104** until the signal amplitudes on both channels become identical to each other.
7. Set the gain switch back to position "2".



※ Adjust **VR104** until a equals b.

(5) TRACKING GAIN ADJUSTMENT

1. Set up the AF oscillator output for **1.1 kHz, 150 mVp-p**, and connect it across the OSC and GND terminals on the servo gain adjuster.
2. Connect oscilloscope's CH. 1 and CH. 2 probes to the servo gain adjuster's TP1 and TP2 terminals, respectively (TP3 is GND).
Oscilloscope setting: VOLT 100 mV
 (both channels)
 SWEEP 1 ms.
 Input coupling . . . AC
3. Switch the player power **ON**, and play the test disc (SZZP1014F or SZZP1054C).
4. Set the servo gain adjuster's gain switch to position "1", and you will see a 1.1 kHz signal on the oscilloscope. Adjust **VR102** until the signal amplitudes on both channels become identical to each other.
5. Set the gain switch back to position "2".

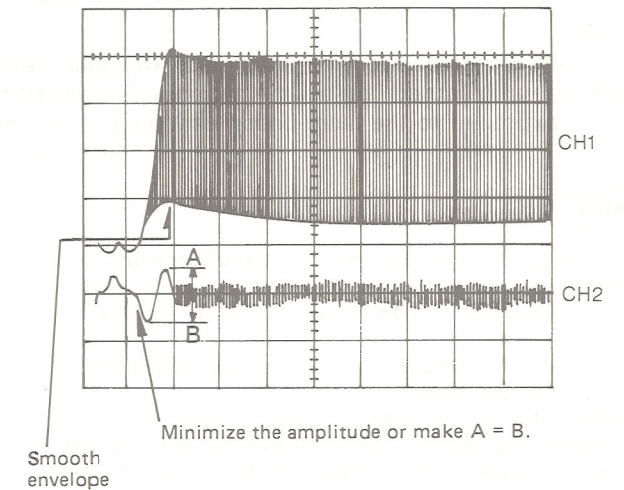


※ Adjust **VR102** until a equals b.

(6) FOCUS OFFSET ADJUSTMENT

Note: Make sure that the servo gain adjuster's gain switch is set to position "2".

1. Connect the oscilloscope's CH. 1 probe across **TJ101** (+) and **TJ102** (–) on the Servo P.C.B. and its CH. 2 probe (+) to VR104's **FEG** terminal.
Oscilloscope setting: VOLT 100 mV (CH. 1)
 100 mV (CH. 2)
 SWEEP 0.5 ms
 Input coupling . . . AC (both CH. 1 and 2)
 Trigger mode . . . NORM (trigger CH. 1.)
2. Switch the player power **ON**, and play track 9 on the test disc (SZZP1057C).
3. Trigger the oscilloscope's CH. 1 so that the following waveforms are observed. Adjust **VR105** until the dip in the RF signal envelope on CH. 1 is smooth and the signal amplitude on CH. 2 is minimized, i.e. when amplitude A equals amplitude B.



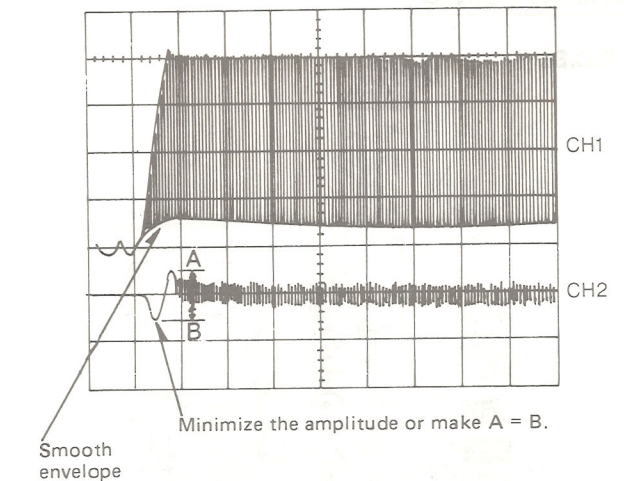
Smooth envelope

Minimize the amplitude or make A = B.

(7) TRACKING OFFSET ADJUSTMENT

Note: Make sure that the servo gain adjuster's gain switch is set to position "2".

1. Connect the oscilloscope's CH. 1 probe across **TJ101** (+) and **TJ102** (–) on the Servo P.C.B., and its CH. 2 probe (+) to VR102's **TEG** terminal.
Oscilloscope setting: VOLT 100 mV (CH. 1)
 200 mV (CH. 2)
 SWEEP 0.5 ms.
 Input coupling . . . AC (both CH. 1 and 2)
 Trigger mode . . . NORM (trigger CH. 1.)
2. Switch the player power **ON**, and play track 9 on the test disc (SZZP1057C).
3. Trigger the oscilloscope's CH. 1 so that the following waveforms are observed. Adjust **VR103** until the dip in the RF signal envelope on CH. 1 is smooth and the signal amplitude on CH. 2 is minimized, i.e. when amplitude A equals amplitude B.



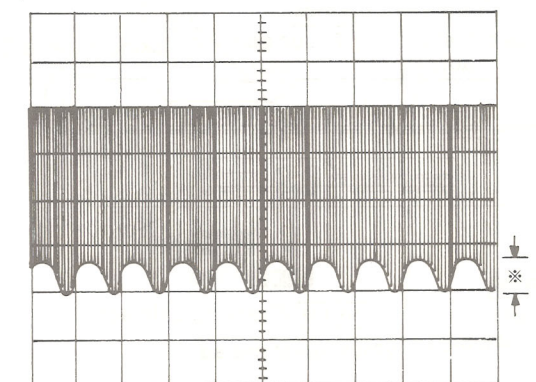
Smooth envelope

Minimize the amplitude or make A = B.

(8) TRACKING BALANCE ADJUSTMENT

1. Make sure that servo gain adjuster's gain switch is set to position "2".
2. Set up the AF oscillator output for **1.1 kHz, 600 mVp-p**, and connect it across the OSC and GND terminals on the servo gain adjuster.
3. Connect oscilloscope's CH. 1 probe across **TJ101** (+) and **TJ102** (–) on the Servo P.C.B. and CH. 2 probe (+) to the OSC terminal on the servo gain adjuster.
Oscilloscope setting: VOLT 100 mV (CH. 1)
 SWEEP 0.5 ms.
 Input coupling . . . AC (both CH. 1 and 2)
 Trigger mode . . . NORM (trigger CH. 2)
4. Switch the player power **ON**, and play the test disc (SZZP1014F or SZZP1054C).

5. Set the servo gain adjuster's gain switch to position "1", and adjust **VR106** until the jitter contained in the signal waveform on CH. 1 is minimized as shown below.
6. Disconnect the servo gain adjuster's leads from the player.



※ Jitter should be minimized.

(9) CHECK OF PLAY OPERATION AFTER ADJUSTMENT

* Checking Skip Search

- 1. Play an ordinary musical program disc.
- 2. Press the skip button to check for normal skip search operation (in both the forward and reverse directions).

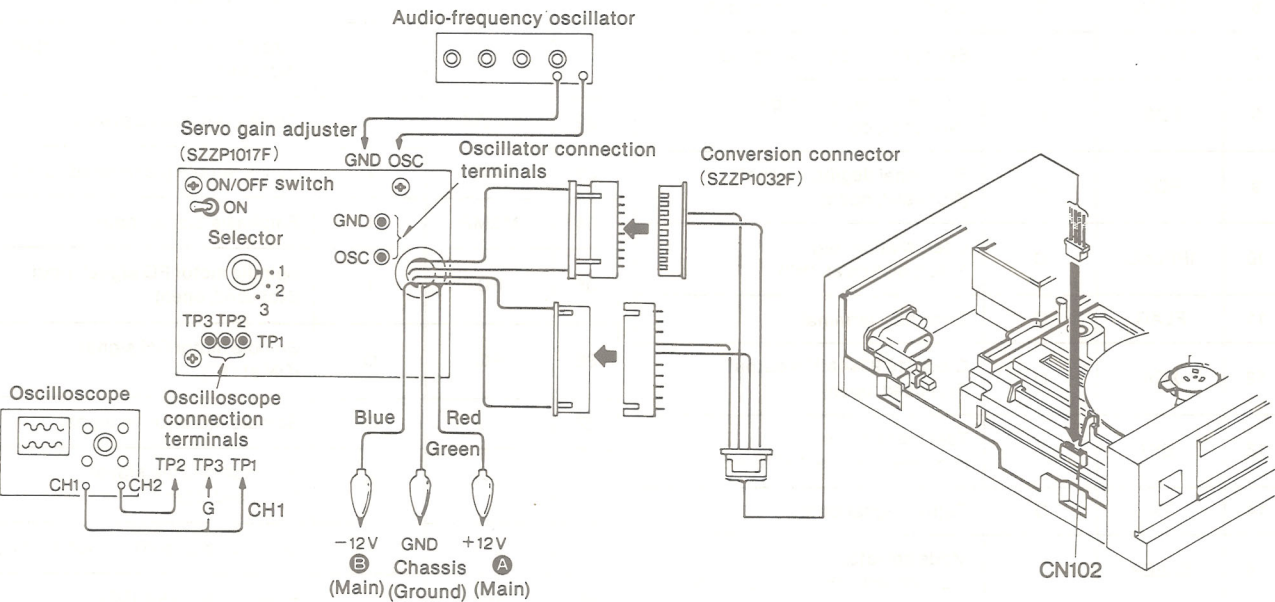
* Checking Manual Search

- 1. Play an ordinary musical program disc.
- 2. Press the manual search button to check for smooth manual search operations at either low or high speed (in both the forward and reverse directions).

* Checking Using Defect Disc

- 1. Play the 0.7 mm black dot and the 0.7 mm wedge on the defect test disc (SZZP1054C) and verify that no sound skip or noise occurs.
- 2. Play the middle tracks of the uneven test disc and verify that no sound skip or noise occurs.

• Connection of servo gain adjuster



■ TERMINAL FUNCTIONS OF IC's

• IC101 (AN8373S): Servo amp.

Pin No.	Mark	I/O Division	Function
1	AMP1	I	RF signal input (X30 amp.)
2	PDAD	I	Photo detector current input (A2)
3	PDA	I	Photo detector current input (A1)
4	PDBD	I	Photo detector current input (A4)
5	PDB	I	Photo detector current input (A3)
6	LPD	I	Non-inverting laser power input
7	LD	O	Laser power auto control output
8	FBL1	I	PD balance adjustment
9	FBL2	I	
10	TBL1	I	Tracking balance adjustment
11	TBL2	I	
12	FOOFS	I	Focus offset adjustment
13	IVA	O	Current/voltage conversion output (A)
14	IVB	O	Current/voltage conversion output (B)
15	FE	O	Focus gain adjustment output
16	FPI	I	Focus error signal input
17	TPI	I	Tracking error signal input
18	C. TPL	I	Tracking error filter capacitor input
19	C. TPH		
20	C. FPL	I	Focus error filter capacitor input
21	C. FPH		

Pin No.	Mark	I/O Division	Function
22	TPO	O	Tracking error signal output
23	FPO	O	Focus error signal output
24	FGC	I	Focus gain up signal input (Not used, connected to GND)
25	TGC	I	Tracking gain up signal input (Not used, connected to GND)
26	GD	I	Focus/tracking gain down signal input (Not used, connected to GND)
27	PTO	O	Position detecting amp. output
28	PTI	I	Position detecting amp. input
29	PBO	O	Position detecting buffer output
30	POT	I	Position detecting buffer input
31	BDO	O	Dropout detection output
32	RFDET	O	RF detection signal output
33	SDO	O	Dropout detection pulse output
34	C. SBDO	I	Dropout detecting capacitor input
35	ARF	O	RF signal output
36	C. AGC	I	AGC detecting capacitor input
37	VCC	I	Power supply (+5 V input)
38	LDON	I	Laser power control input
39	RF IN	I	RF signal input
40	AMPO	O	RF signal output
41	VREF	O	Reference voltage output
42	GND	I	Ground terminal

■ NEW SERVO GAIN ADJUSTER (Servo Amp. Adjusting Fixture)

The following introduces the improved version of the current servo gain adjuster (SZZP1017F):

Part number: SZZP1094C

Features:

- (1) Contains all oscillation frequencies and output adjustments needed for focus servo gain, tracking servo gain, and tracking balance adjustment (requires no external oscillator).
- (2) Panel indicators indicate the best points of focus and tracking servo gains (no oscilloscope needed).
- (3) Internal power supply eliminates the need for power supply from the CD player.

• IC102 (AN8374S): Servo processor

Pin No.	Mark	I/O Division	Function	Pin No.	Mark	I/O Division	Function
1	LSA	I	Phase difference input (A)	22	VDD	I	Power supply (+5 V input)
2	LSB	I	Phase difference input (B)	23	SPCNT	O	Track crossing speed control output (Not used, open)
3	TEOFS	I	Tracking offset adjustment	24	SENSE	O	Selector output (track crossing state)
4	TE	O	Tracking gain adjustment	25	TRV	O	Traverse servo control output
5	TEG	I		26	FLOCK	O	Focus lock signal output
6	TE OUT	O	Tracking error signal output	27	KICK	O	Track kick signal output
7	TE BPF	I	Tracking error gain detecting filter (Not used, open)	28	LDON	O	Laser power control output
8	FEG	I	Focus gain adjustment	29	VDET	O	Focus/tracking gain up output (Not used, open)
9	FE OUT	O	Focus error signal output	30	CNT1	I	Control input (FOON: Focus servo ON signal)
10	CLW	O	Triangular wave oscillator capacitor input	31	CNT2	I	Control input (TRON: Tracking servo ON signal)
11	VREF	I	Reference voltage input	32	CNT3	I	Control input (KICKF: Kick direction (forward) command)
12	ARF	I	RF signal input	33	CNT4	I	Control input (KICKR: Kick direction (reverse) command)
13	CDSL	I	Data slice filter capacitor input	34	TRVF	I	Traverse forward command signal
14	FPC	I	Frequency difference signal input	35	TRVR	I	Traverse backward command signal
15	GND	I	Ground terminal	36	RFDET	I	RF detection signal input
16	C. PLL	I	PLL loop filter constant	37	BDO	I	Dropout detection input
17	VSS	I	Ground terminal	38	VCC	I	Power supply (+5 V input)
18	CLK	I	Frequency pull-in clock signal (88.2 kHz) input	39	TVPO	O	Traverse position detecting resistor/capacitor inputs
19	SRF	O	Sliced and digitized RF signal output	40	TVPI	I	
20	PCK	O	Clock output extracted from SRF	41	BROUT	O	Tracking drive control output
21	EFM	O	EFM signal output synchronous with PCK	42	BRIN	I	Tracking error signal input

• IC103 (AN8377): BTL drive

Pin No.	Mark	I/O Division	Function	Pin No.	Mark	I/O Division	Function
1	PVCC	I	Driver power supply (+8.9V input)	9	TD-	O	Inverting output of tracking driver
2	VCC	I	Power supply (+8.9V input)	10	TD+	O	Non-inverting output of tracking driver
3	TB	O	External transistor base driving output	11	FD-	O	Inverting output of focus driver
4	VMON	O	Voltage output	12	FD+	O	Non-inverting output of focus driver
5	TVDI	I	Traverse error signal input	13	TVD-	O	Inverting output of traverse driver
6	FDI	I	Focus error signal input	14	TVD+	O	Non-inverting output of traverse driver
7	TDI	I	Tracking error signal input	15	RESET	O	Reset signal output
8	VREF	I	Reference voltage input	16	PC	I	PC input (connect to GND)

• IC301 (MN6625): Digital signal processing

Pin No.	Mark	I/O Division	Function	Pin No.	Mark	I/O Division	Function
1	BYTCK	O	Serial data byte clock (Not used, open)	25	MCLK	I	Command clock signal input
2	FCLK	O	Crystal frame clock (Not used, open)	26	MDATA	I	Command data input
3	DEMPH	O	De-emphasis ON signal (de-emphasis ON at "H") (Not used, open)	27	DMUTE	I	Muting control
4	SRDATA	O	Serial data output (MSB first)	28	TRON	I	Tracking servo ON signal (tracking servo ON at "L")
5	SCK	O	Serial bit clock output	29	STAT	O	Processing condition (CRC, CUE, CLVS, TT STOP, FCLV)
6	LRCK	O	LR discrimination signal output	30	SUBC	O	Sub-code serial output data (Not used, open)
7	WDCK	O	Serial data output word clock	31	SBCK	I	Clock for sub-code serial output (Not used, open)
8	LDG	O	L channel deglitch signal (Not used, open)	32	SMCK	O	Clock output (4.2336 MHz)
9	RDG	O	R channel deglitch signal (Not used, open)	33	VDD	I	Power supply (connected to +5V)
10	IPFLAG	O	Interpolation flag (interpolation at "H")	34	MEMP	I	Emphasis signal input
11	FLAG	O	Error flag terminal	35	FG	I	Spindle motor FG signal input (Not used, open)
12	XCK	O	Clock (16.9344 MHz) output (Not used, open)	36	PC	O	Spindle motor ON signal (ON at "L")
13	TEST	I	Test mode selection (Not used, connected to +5V)	37	EC	O	Spindle motor drive signal
14	TX	O	Digital signal output	38	RESY	O	Resynchronizing signal (Not used, open)
15	SLEEP	I	Mode selector ("L": normal, "H": SLEEP mode)	39	DO	I	Drop-out signal (Drop-out at "H")
16	CSEL	I	Test terminal ("L": normal)	40	SRF	I	EFM signal input (DSL)
17	X1	I	Clock input (16.9344 MHz)	41	EFM	I	EFM signal input (PLL)
18	X2	O	Clock output (16.9344 MHz) (Not used, open)	42	PCK	I	PLL extract clock input (4.3218 MHz)
19	VSS	I	GND terminal	43	FPC	O	PLL frequency comparison signal
20	BLKCK	O	Sub-code block (Q data) clock (75 Hz)	44 51	D7 D0	I/O	16 K RAM data input/output
21	CLDCK	O	Sub-code frame (Q data) clock (7.35 kHz)	52	RAM/OE	O	16 K RAM $\overline{OE}$ signal
22	SUBQ	O	Sub-code (Q data) output	53	RAM/WE	O	16 K RAM $\overline{WE}$ signal
23	RST	I	Reset signal input (reset at "L")	54 64	RAM/A0 RAM/A10	O	16 K RAM address signal (RAMA0: LSB, RAMA10: MSB)
24	MLD	I	Command load signal input				

• IC401 (MN1554PEZ-1): System control

Pin No.	Mark	I/O Division	Function	Pin No.	Mark	I/O Division	Function
1	BRECV	—	(Not used, open)	29	CLOSE	I	Disc holder “Open” detection
2	BSEND	—	(Not used, open)	30	OPEN	I	Disc holder “Close” detection
3	SYNC	O	(Not used, open)	31	BCLK	I	(Not used, connected to GND)
4	SIRQ	I	Not used (connected to +5V)	32	BDATA	I	(Not used, connected to GND)
5	BLKCK	I	Sub-code block (Q data) clock input (75 Hz)	33	STAT	I	Processing status input from signal processing LSI
6	CLDCK	I	Sub-code block (Q data) clock input (7.35 kHz)	34	COMP	O	TOC reading control (ON at “L”) (connected to GND)
7	SBO	I	(Not used, open)	35	FLOCK	I	Optical servo condition (focus) input
8	SUBQ	I	Sub-code (Q data) input	36	SENSE	I	Optical servo condition (track cross) input
9	RST	I	Reset signal input	37	RECV	I	Data receipt command signal
10 13	P20 P23	O	Not used (connected to +5V)	38	SEND	I	Data transmission command signal
14	CLOSE	O	Loading motor “Close” command	39	ACK	I	Data discrimination signal
15	OPEN	O	Loading motor “Open” command	40	CLK	I	Data lock signal
16	SLOW	O	(Not used, open)	41 44	DATA0 DATA3	I	Key scan signal
17	MUTE	O	Muting control	45 52	NC	I	Not connected
18	SEEK	O	Traverse servo control (Not used, open)	53	OSC2	I	Clock terminal
19	NC	—	Not connected	54	OSC1	I	Clock input
20	TRV.R	O	Traverse “Reverse” command signal	55	X1	I	Optical servo condition input
21	TRV.F	O	Traverse “Forward” command signal	56	X0	O	(Not used, open)
22	CNT4	O	Optical servo IC control signal (KICKR: Kick direction [reverse] command)	57	GND	I	GND terminal
23	CNT3	O	Optical servo IC control signal (KICKF: Kick direction [forward] command)	58	DMUTE	O	Muting control
24	CNT2	O	Optical servo IC control (TRON: Tracking servo)	59	MDATA	O	Command data output
25	VDD	I	Power supply (connected to +5V)	60	MCLK	O	Data clock output (command clock signal)
26	DOWN	O	(Not used, open)	61	MLD	O	Data output (command load signal)
27	UP	O	(Not used, open)	62	DOUTON	O	Optical output control signal (Not used, open)
28	CNT1	O	Optical servo IC control signal (FOON: Focus servo)	63	EMPH	O	Emphasis signal output
				64	NC	—	Not connected

• IC601 (MB88724PJC): System control and FL drive

Pin No.	Mark	I/O Division	Function	Pin No.	Mark	I/O Division	Function
1 14	C0 C13	O	FL grid signal	33	X	I	Clock signal input (4.2336 MHz)
15	C14	O	FL grid signal (Not used, open)	34	EX		
16	C15	O	FL grid signal (Not used, open)	35	SE	I	Not used, connected to +5V
17	P00	O	Key scan signal	36	WD	I	Not used, connected to GND
18	P01			37	XL	O	Not used, open
19	P02	O	Data discrimination signal	38	EXL	O	Not used, open
20	P03	O	Data lock signal	39	P60	I	Key return signal
21 24	P10 P13	O	Key scan signal	42	P63		
25	P40	I	Remote control signal	43	P70		
26	P41	—	Not used, open	46	P73		
27	P42	O	Data receipt command signal	47	VPP	I	FL drive power supply (connected to –32V)
28	P43	O	Data transmission command signal	48 63	S15 S0	O	FL anode signal
29	P50	—	Not used, open	64	VCC	I	Power supply (connected to +5V)
30	P51	I	Not used, connected to GND				
31	RES	I	Reset signal input (reset at “L”)				
32	VSS	I	GND terminal				

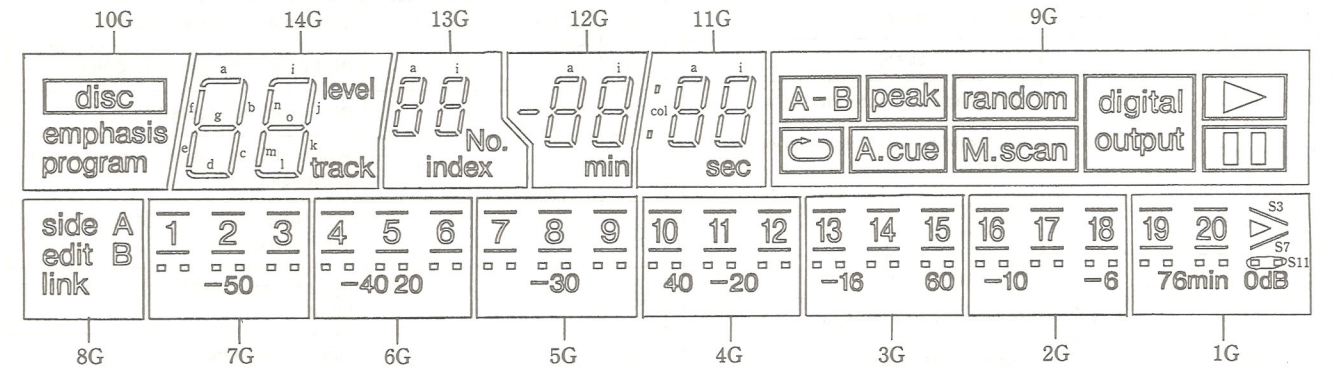
•IC801 (MN6471): Digital filter and D/A converter

Pin No.	Mark	I/O Division	Function
1	MLD	I	Command load input (load: L)
2	RSTB	I	Reset signal input (reset at "L")
3	IE	I	Not used, connected to GND
4	TP1	—	TEST terminal
5	TP2	—	
6	TEST1	I	TEST terminal 1 (connected to GND)
7	TEST2	I	TEST terminal 2 (connected to GND)
8	NC	—	Not connected
9	NC	—	Not connected
10	AVDD4	I	Power supply (connected to +5V)
11	OUTL (—)	O	Lch data output, (—) terminal
12	AVSS4	I	GND terminal
13	AVSS3	I	GND terminal
14	OUTL (+)	O	Lch data output, (+) terminal
15	AVDD3	I	Power supply (connected to +5V)
16	NC	—	Not connected
17	AVDD2	I	Power supply (connected to +5V)
18	OUTR (+)	O	Rch data output, (+) terminal
19	AVSS2	I	GND terminal (analog system)
20	AVSS1	I	GND terminal (analog system)
21	OUTR (—)	O	Rch data output, (—) terminal

Pin No.	Mark	I/O Division	Function
22	AVDD1	I	Power supply (connected to +5V)
23	DVDD1	I	Power supply (connected to +5V)
24	DVSS1	I	GND terminal (digital system)
25	X2	O	Clock output
26	X1	I	Clock input
27	NC	—	Not connected
28	DVDD2	I	Power supply (connected to +5V)
29	DVSS2	I	GND terminal (digital system)
30	NSUB	I	Sub-strate terminal (Not used, connected to +5V)
31	ZFLGB	O	Zero input detector terminal (Not used, open)
32	192fs	O	192 fs (8.4672 MHz) (Not used, open)
33	LRPOL	I	LR clock selector (Not used, connected to +5V)
34	LRCLK	I	LR discrimination signal input
35	BCLK	I	Serial bit clock input
36	SRDATA	I	Serial data input (MSB first)
37	DVSS 3	I	GND terminal (digital system)
38	DVDD	I	Power supply (connected to +5V)
39	384 fs	O	384 fs (16.9344 MHz) output
40	PD	I	Power down terminal
41	MDATA	I	Command data input
42	MCLK	I	Command clock input

INTERNAL CONNECTION OF FL

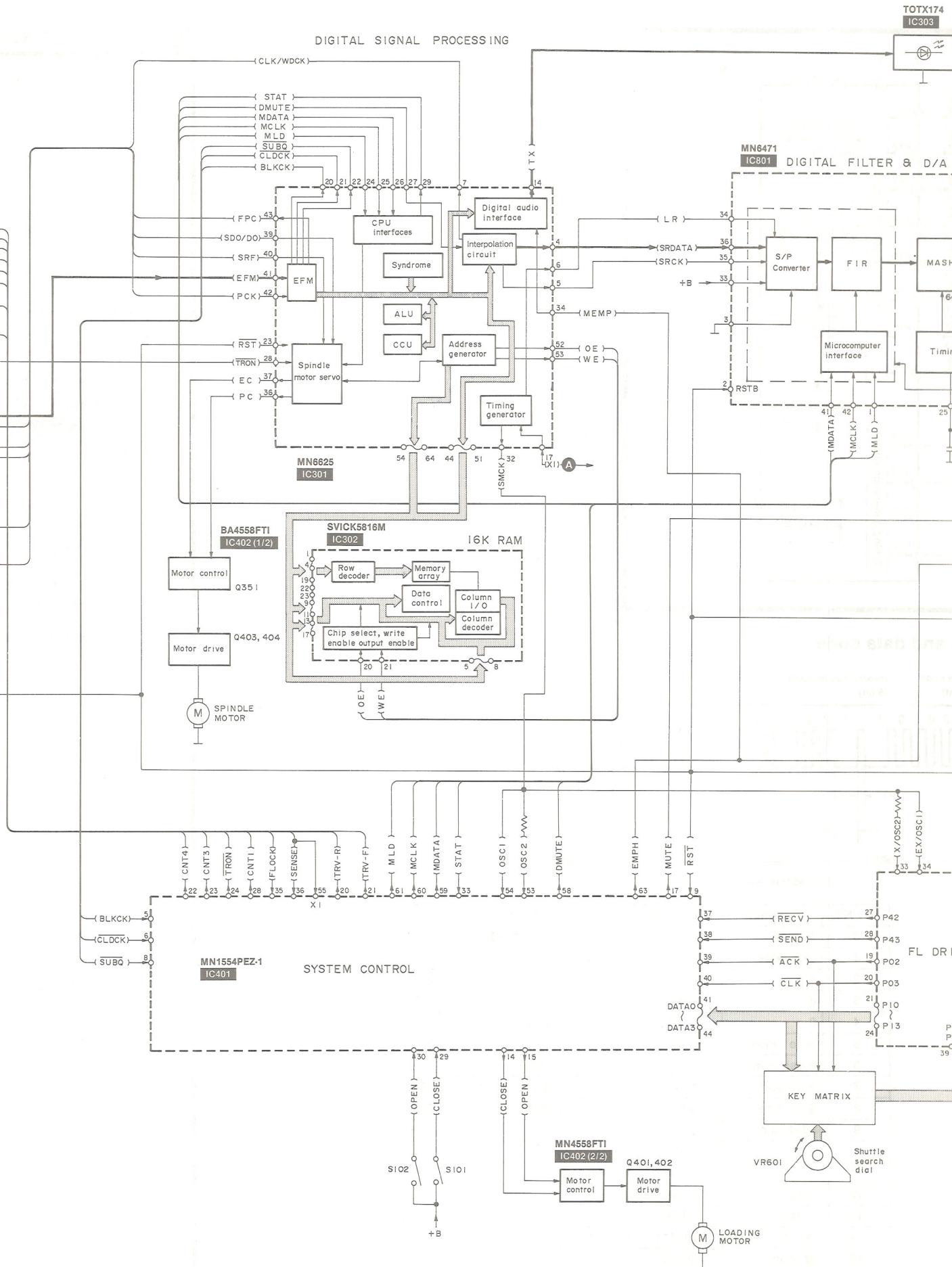
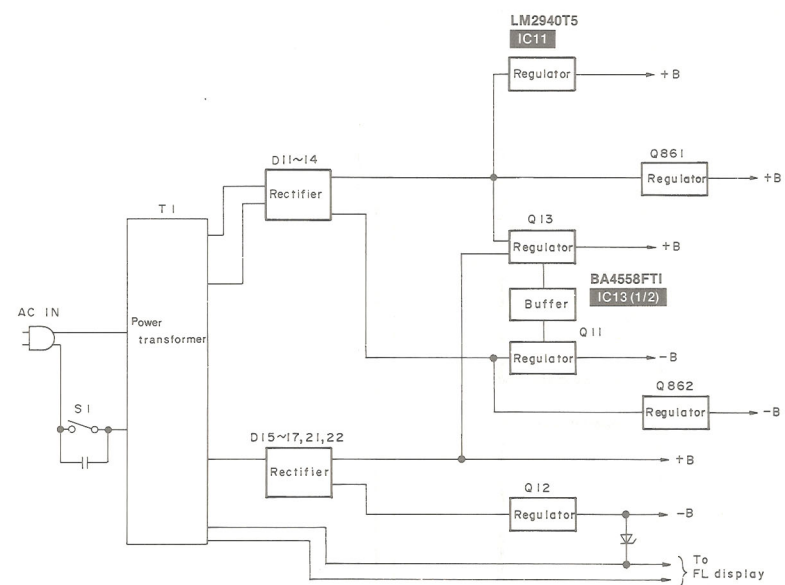
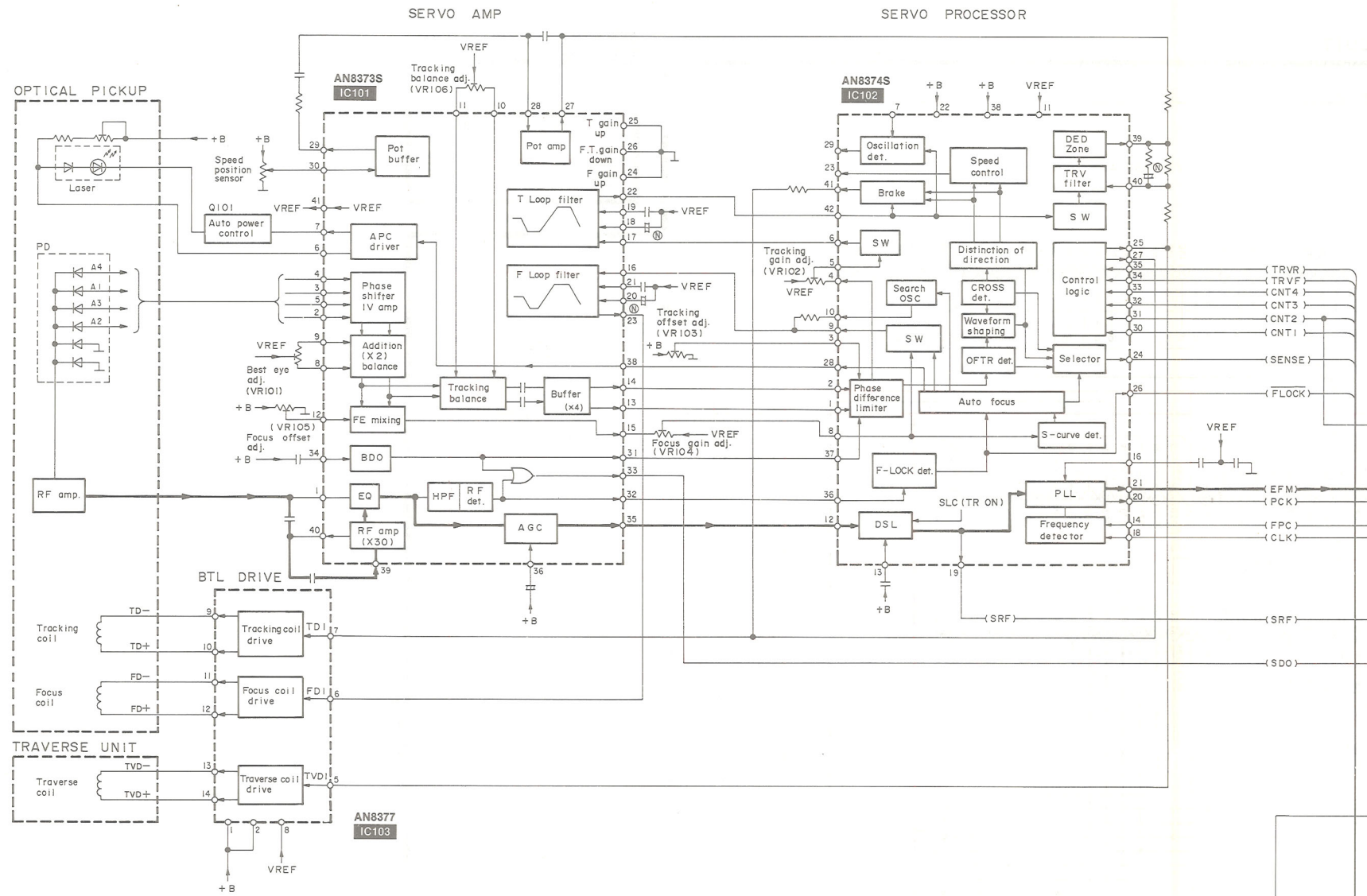
• Grid connection diagram



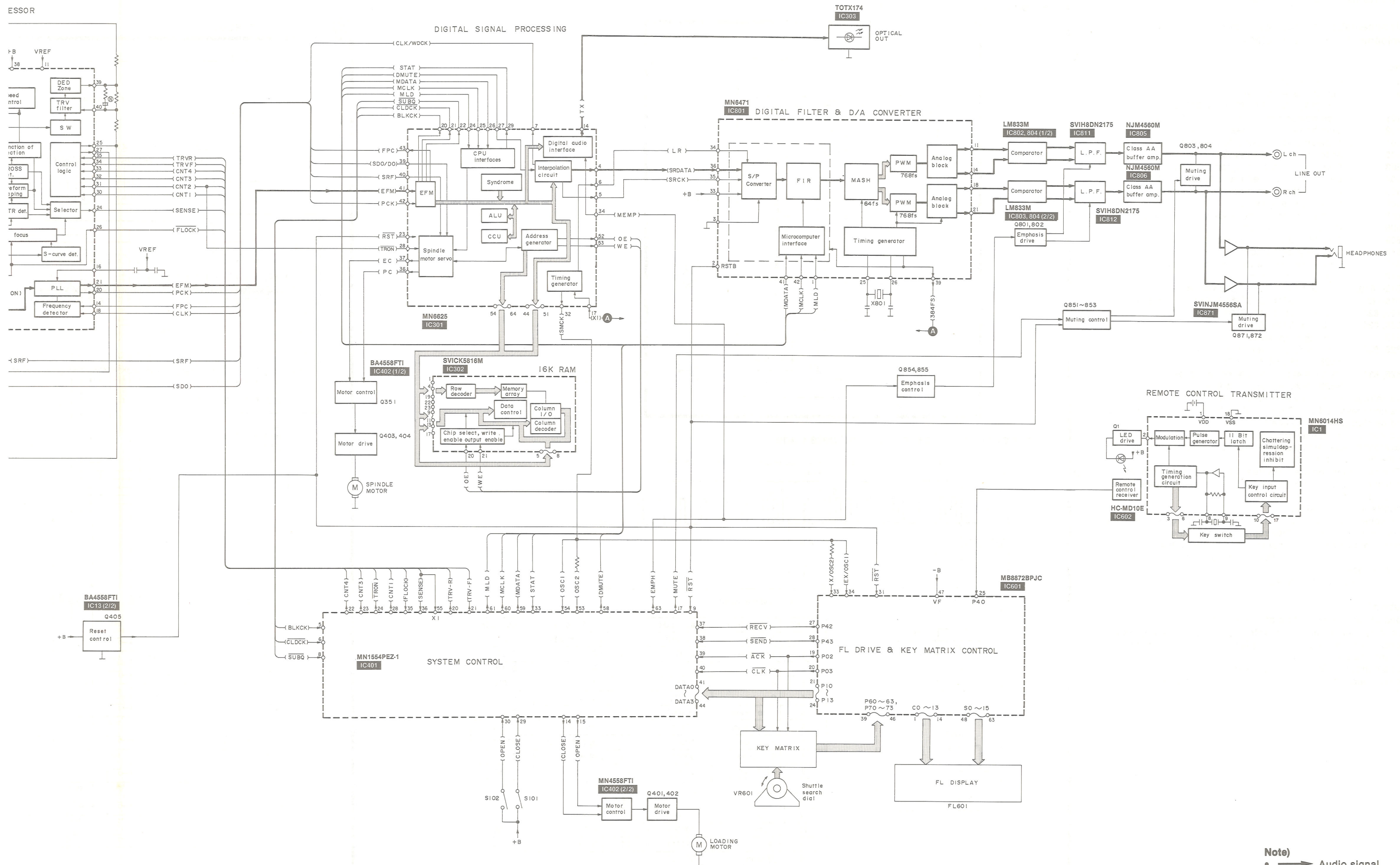
• Anode connection table

	14G	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
S1	a	a	a	a	disc	-	edit	1	4	7	10	13	16	19
S2	b	b	b	b	program	-	link	2	5	8	11	14	17	20
S3	f	f	f	f	-	-	A	3	6	9	12	15	18	
S4	g	g	g	g	-	M.scan	B	1	4	7	10	13	16	19
S5	c	c	c	c	-	peak	side	1	4	7	10	13	16	19
S6	e	e	e	e	-	A-	-	2	5	8	11	14	17	20
S7	d	d	d	d	-	B	-	3	6	9	12	15	18	
S8	level	No.	—	col	-		-	2	5	8	11	14	17	20
S9	i	i	i	i	-	digital output	-	1	4	7	10	13	16	19
S10	j	j	j	j	-	A.cue	-	2	5	8	11	14	17	20
S11	n	n	n	n	emphasis	-	-	3	6	9	12	15	18	21
S12	o	o	o	o	-	random	-	3	6	9	12	15	18	
S13	k	k	k	k	-		-	-	-	-	-	-	-	-
S14	m	m	m	m	-		-	-	-	-	-	-	-	-
S15	ℓ	ℓ	ℓ	ℓ	-	-	-	-50	-40	-30	-20	-16	-10 -6	0 dB
S16	track	index	min	sec	-	-	-	-	20	-	40	60	-	76min

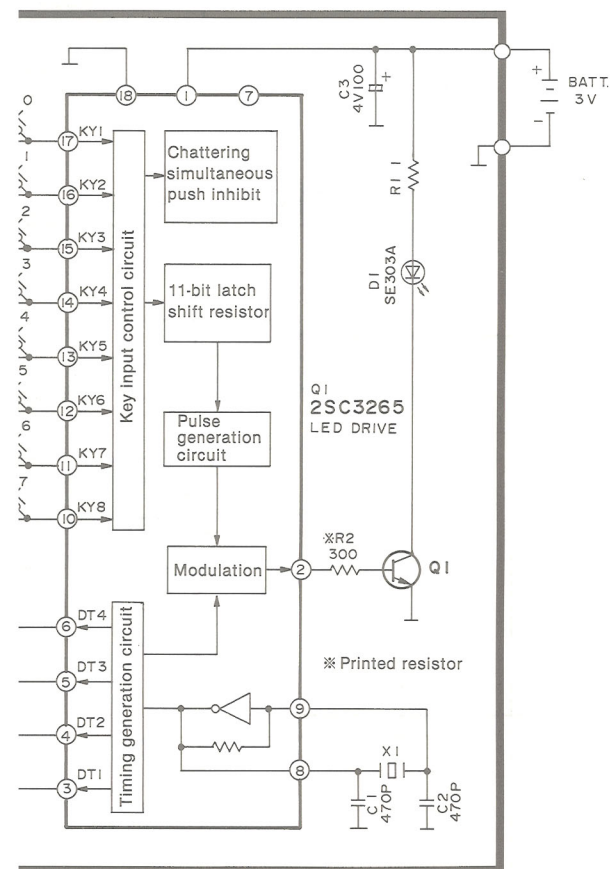
■ BLOCK DIAGRAM



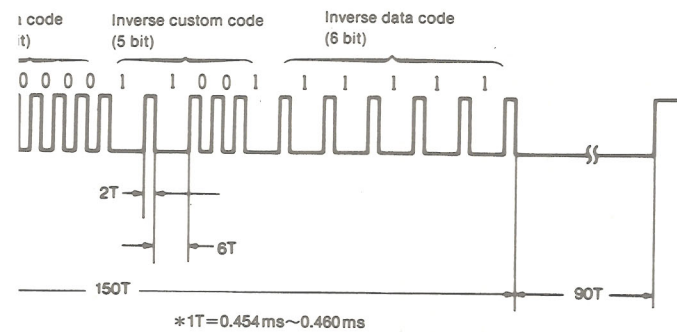
ESSOR



Note) Audio signal



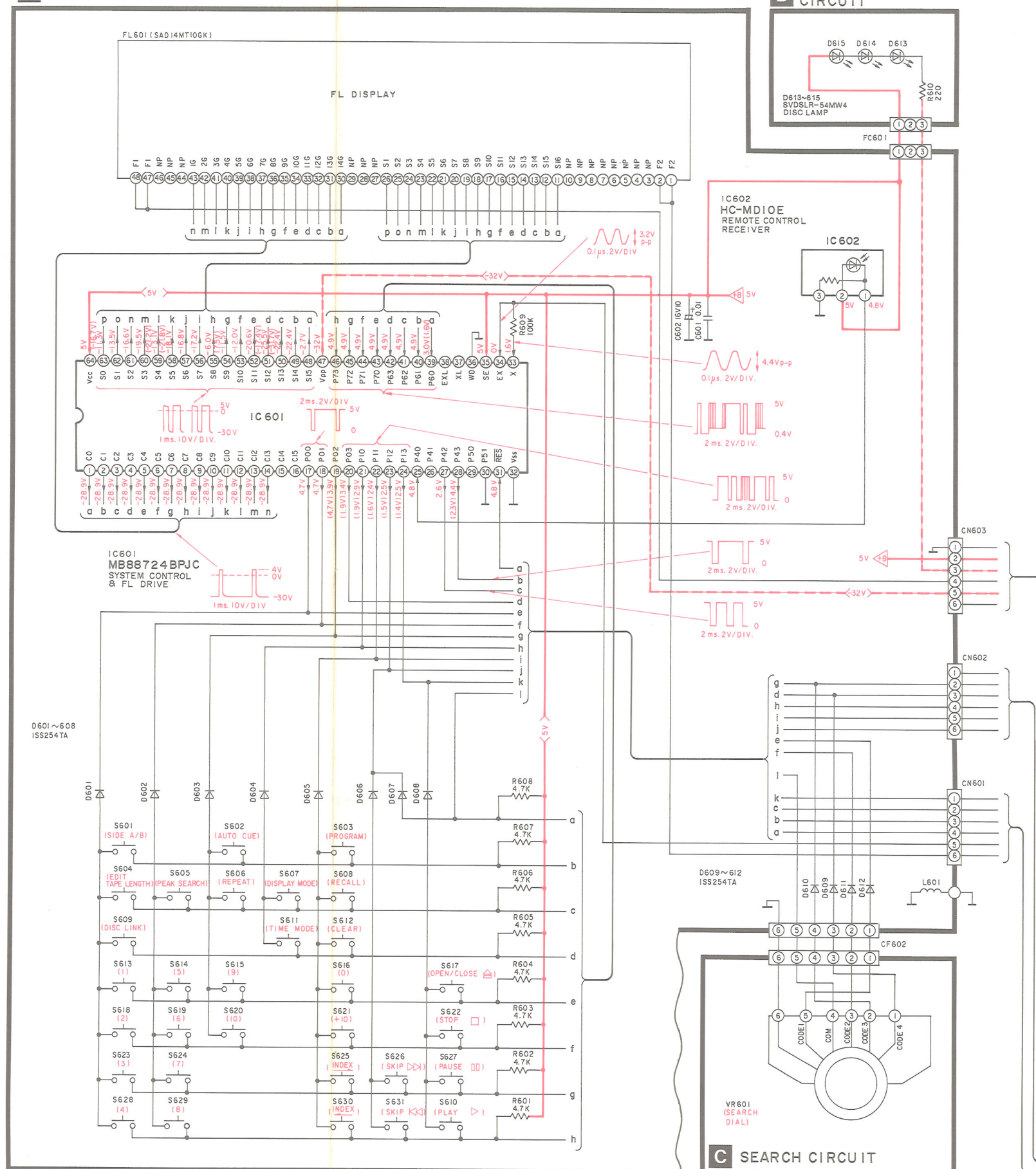
and data code



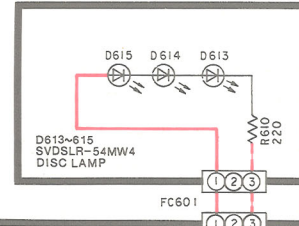
Key No.	Function	Data code	Key No.	Function	Data code
0	▶ play	001010	17	search ▶▶	000101
1	skip ▶▶▶	000011	18	2	010001
2	4	010011	19	6	010101
3	8	010111	20	10	110000
4	0	011001	21	clear	001011
5	time mode	101001	22	repeat	000111
6	music scan	001111	23	level ▲	100100
7	auto cue	100011	24	▲ open/close	001110
8	■ pause	000110	25	◀◀ search	000100
9	◀◀ skip	000010	26	1	010000
10	3	010010	27	5	010100
11	7	010110	28	9	011000
12	+10	011010	29	program	011101
13	recall	001001	30	A-B repeat	001000
14	random	011111	31	▼ level	100101
16	■ stop	000000			

*Custom code: 01100

A OPERATION CIRCUIT



B DISC ILLUMINATOR CIRCUIT



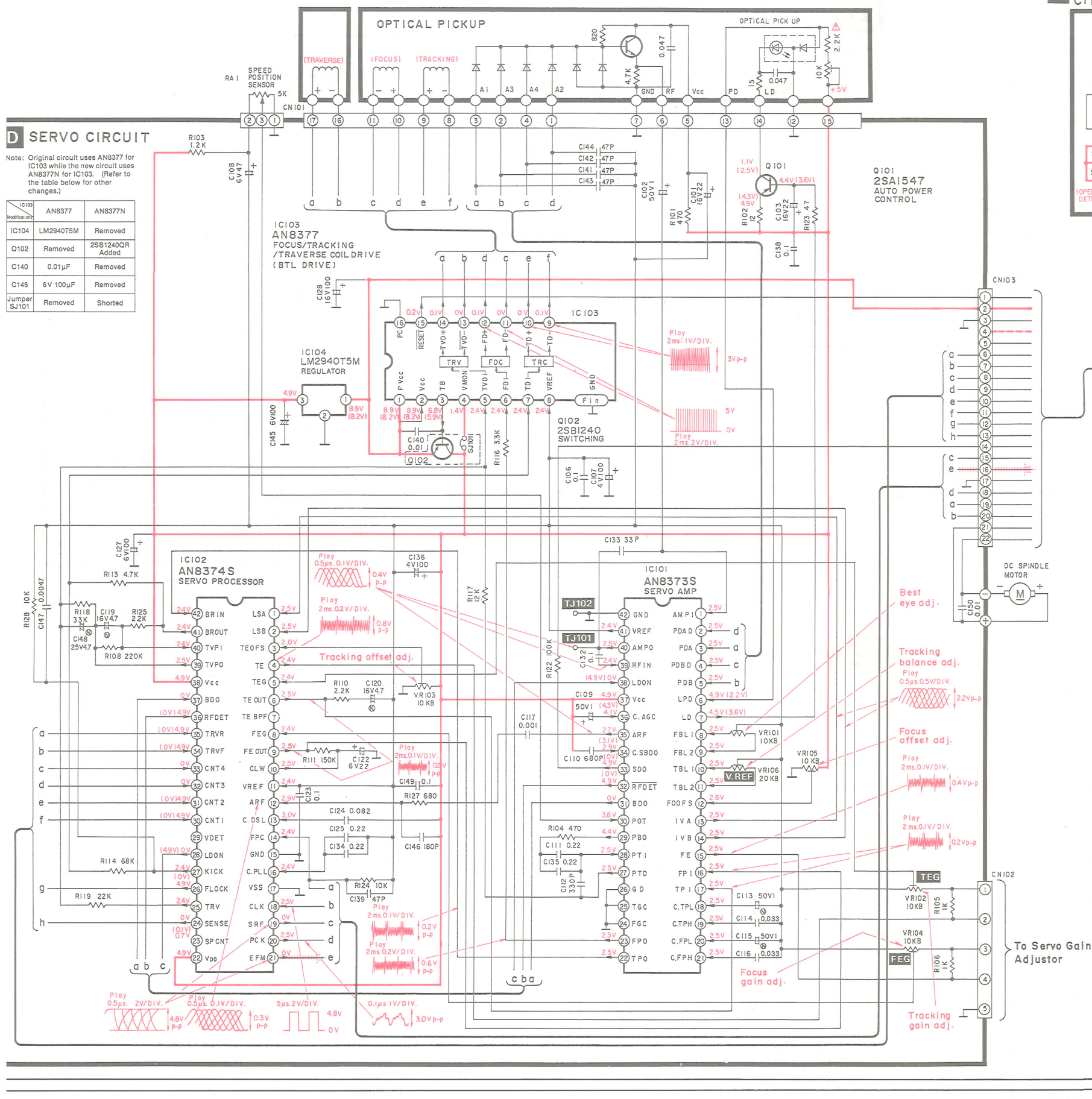
C SEARCH CIRCUIT



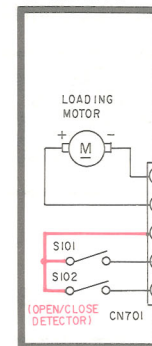
D SERVO CIRCUIT

Note: Original circuit uses AN8377 for IC103 while the new circuit uses AN8377N for IC103. (Refer to the table below for other changes.)

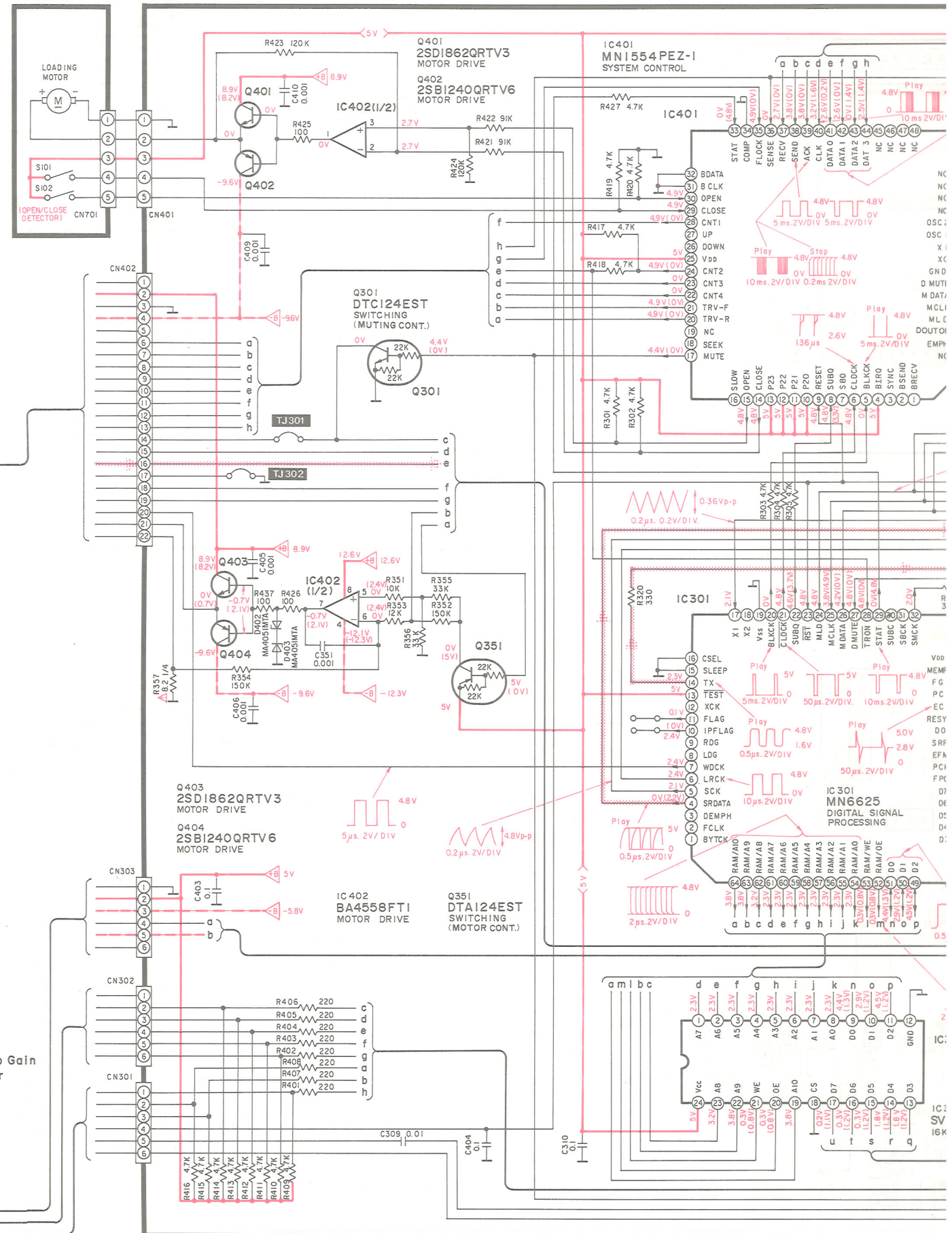
IC103	AN8377	AN8377N
IC104	LM2940T5M	Removed
Q102	Removed	2SB1240QR
C140	0.01μF	Removed
C145	8V 100μF	Removed
Jumper SJ101	Removed	Shorted



E MOTOR/SWITCH CIRCUIT



F MAIN CIRCUIT

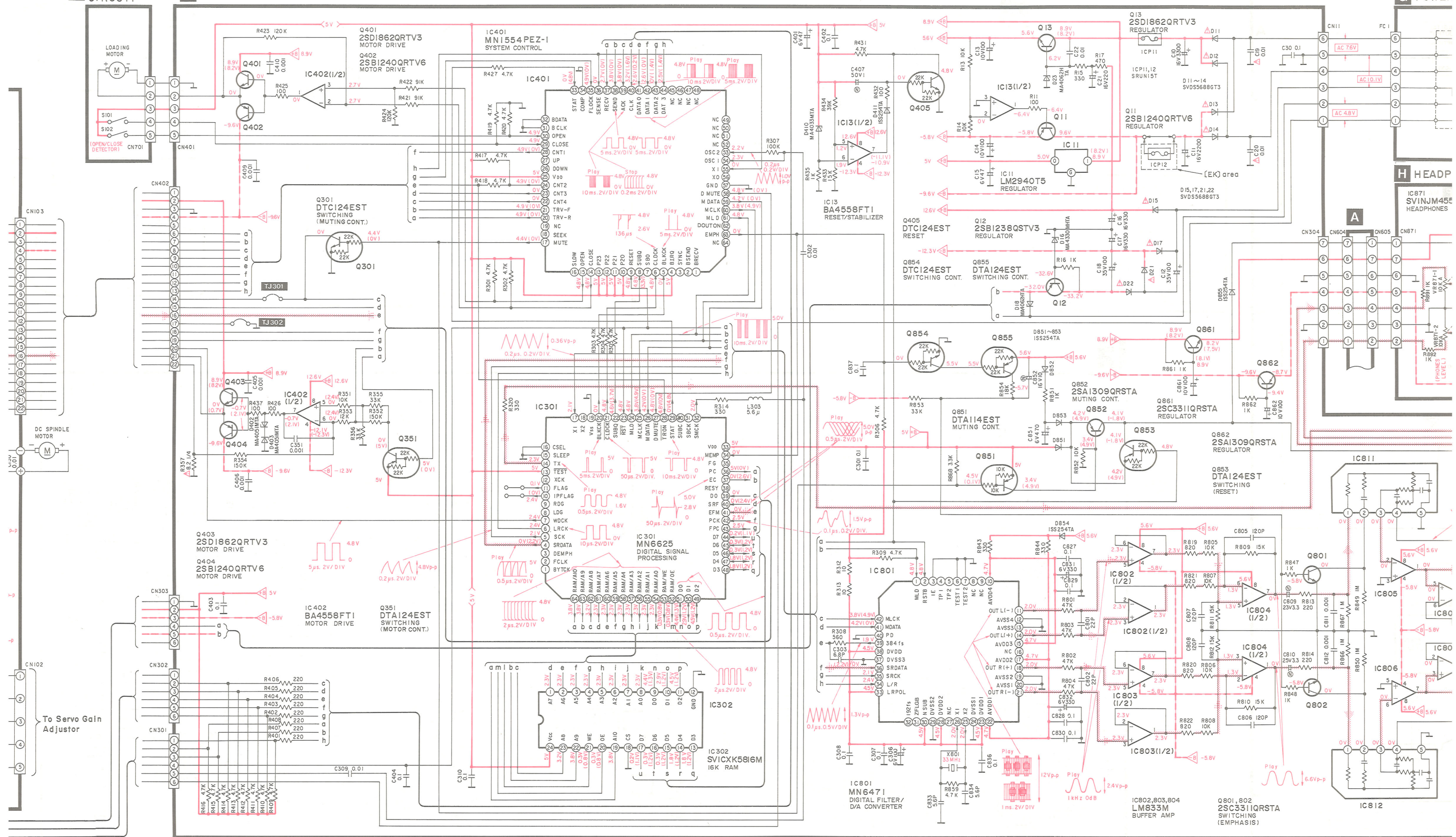


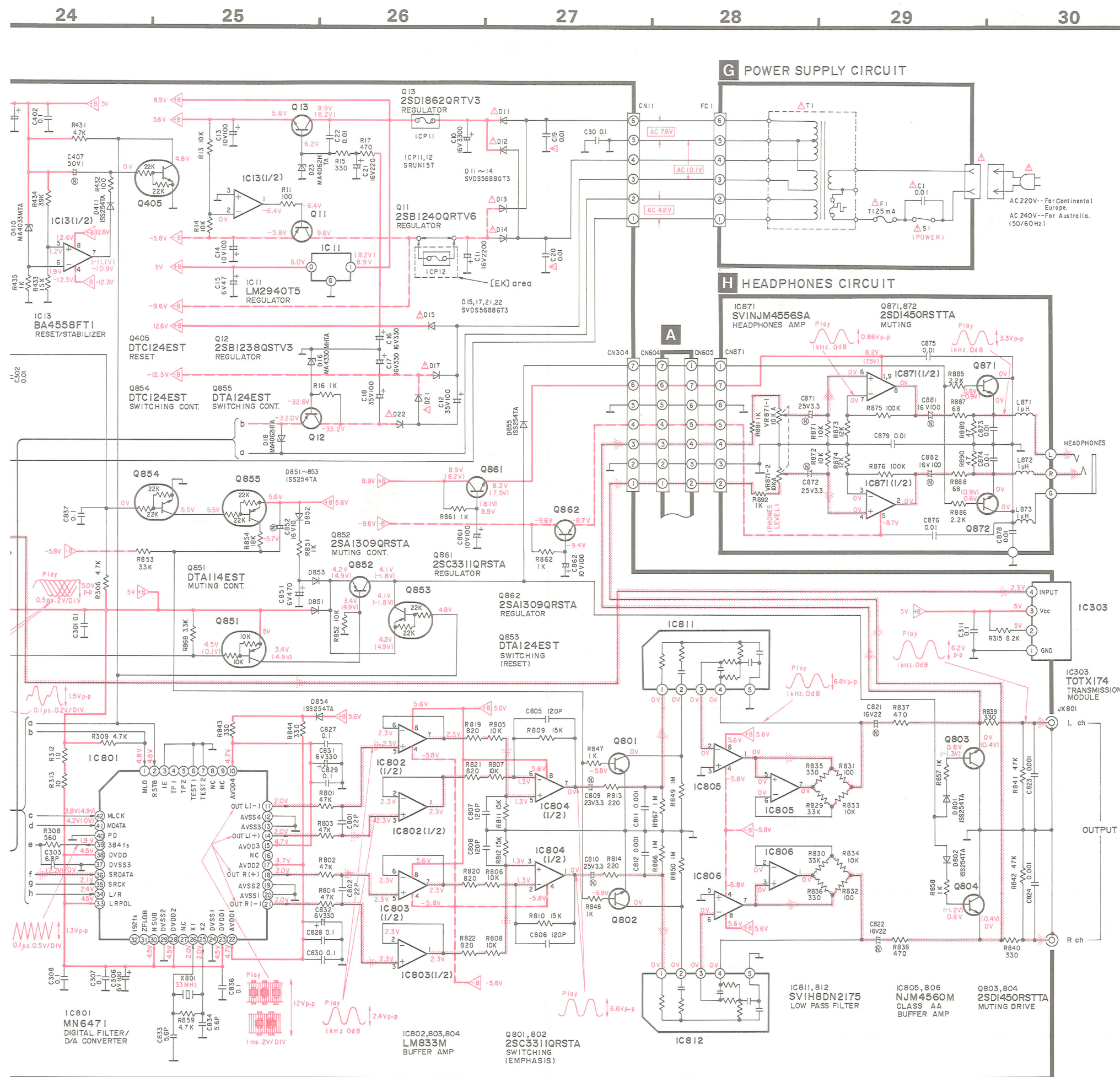
E MOTOR/SWITCH CIRCUIT

F MAIN CIRCUIT

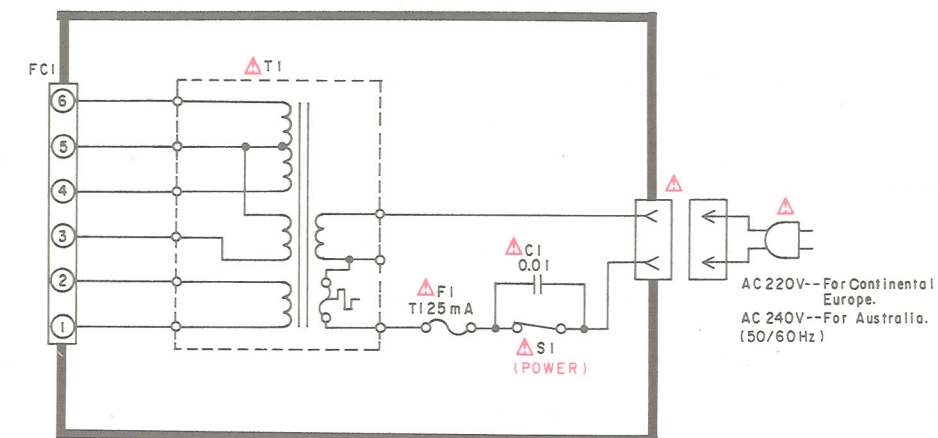
G POWER

H HEADP

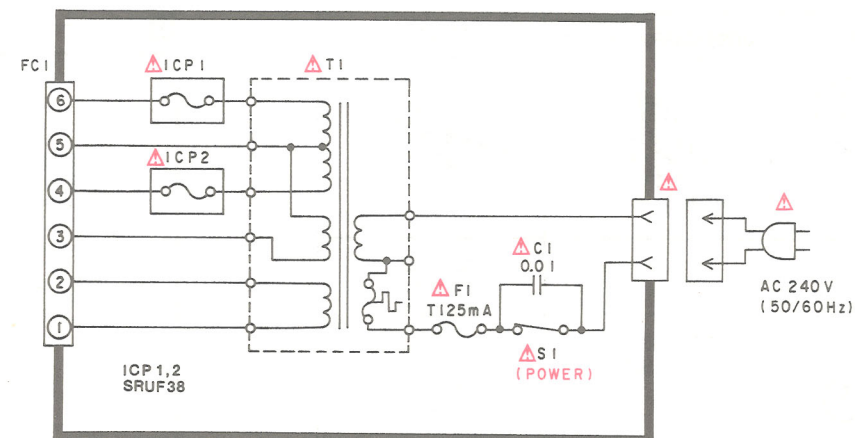




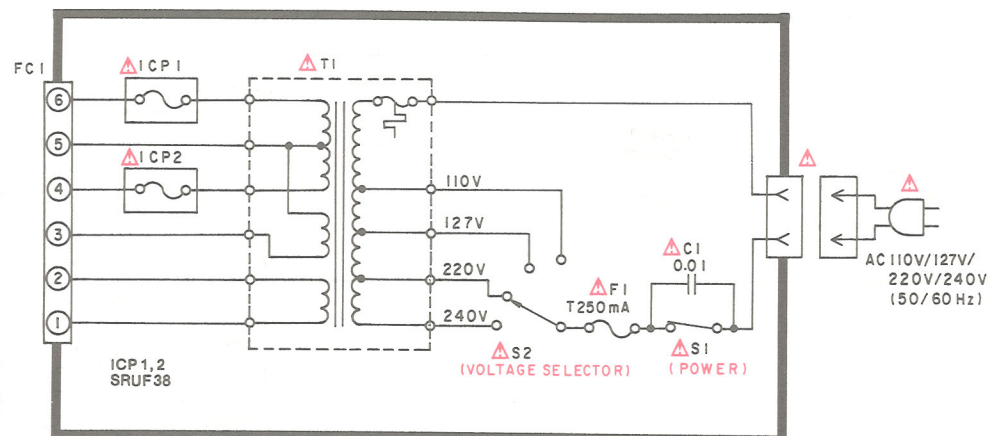
• Power supply circuit for (E), (XL), (EG), (EB), (EH) and (Ei) areas.



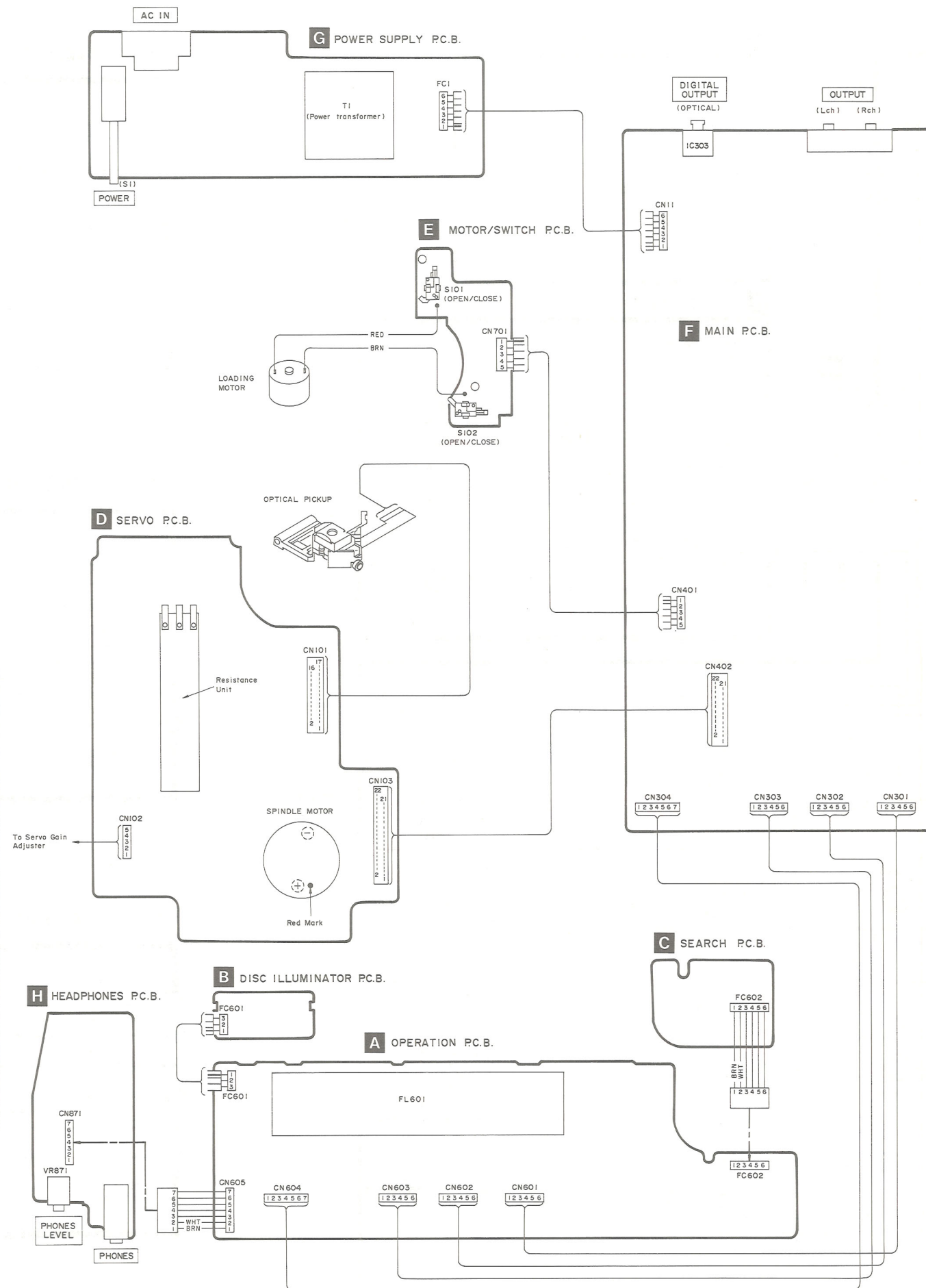
• Power supply circuit for (EK) area.



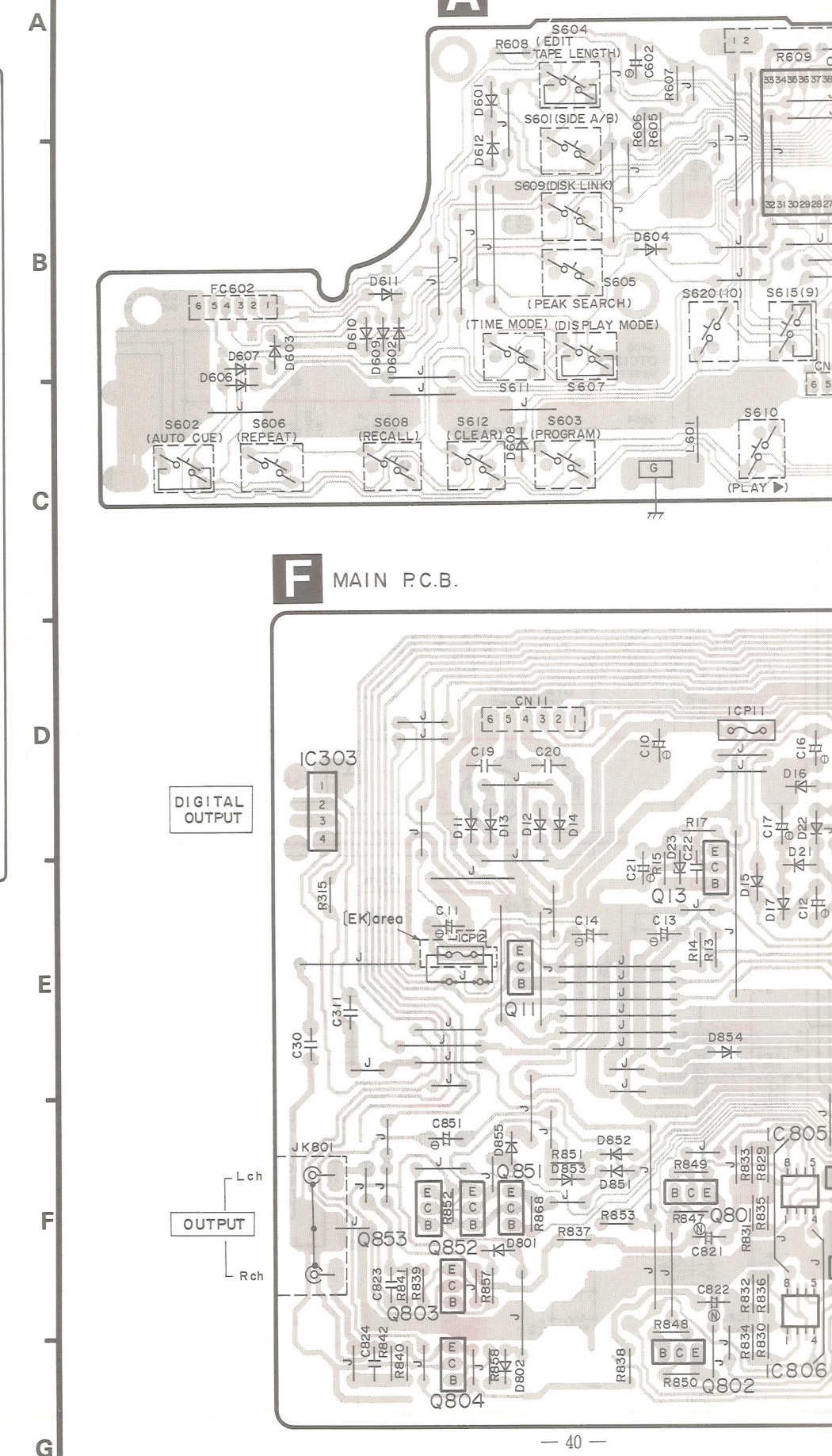
• Power supply circuit for (XA), (XB), (PA), (PE) and (PC) areas.



■ WIRING CONNECTION DIAGRAM

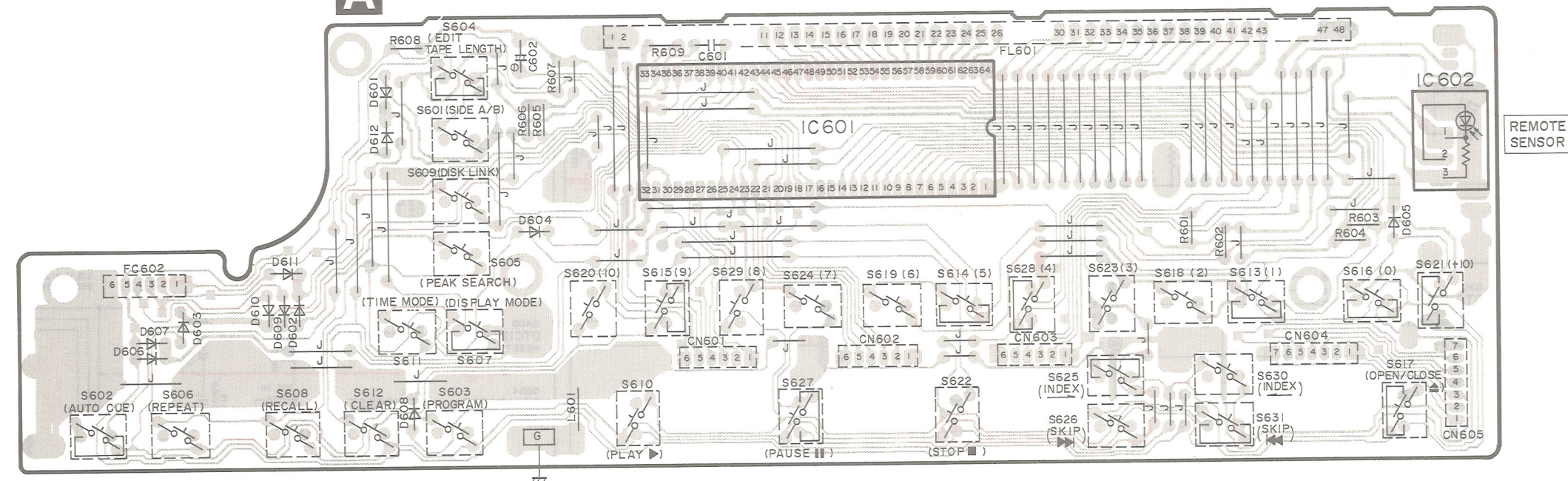


OPERATION P.C.B.

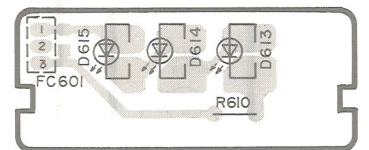


PRINTED CIRCUIT BOARDS

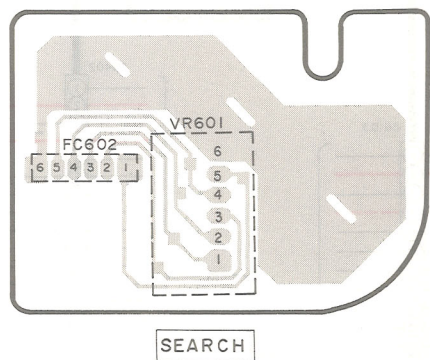
A OPERATION P.C.B.



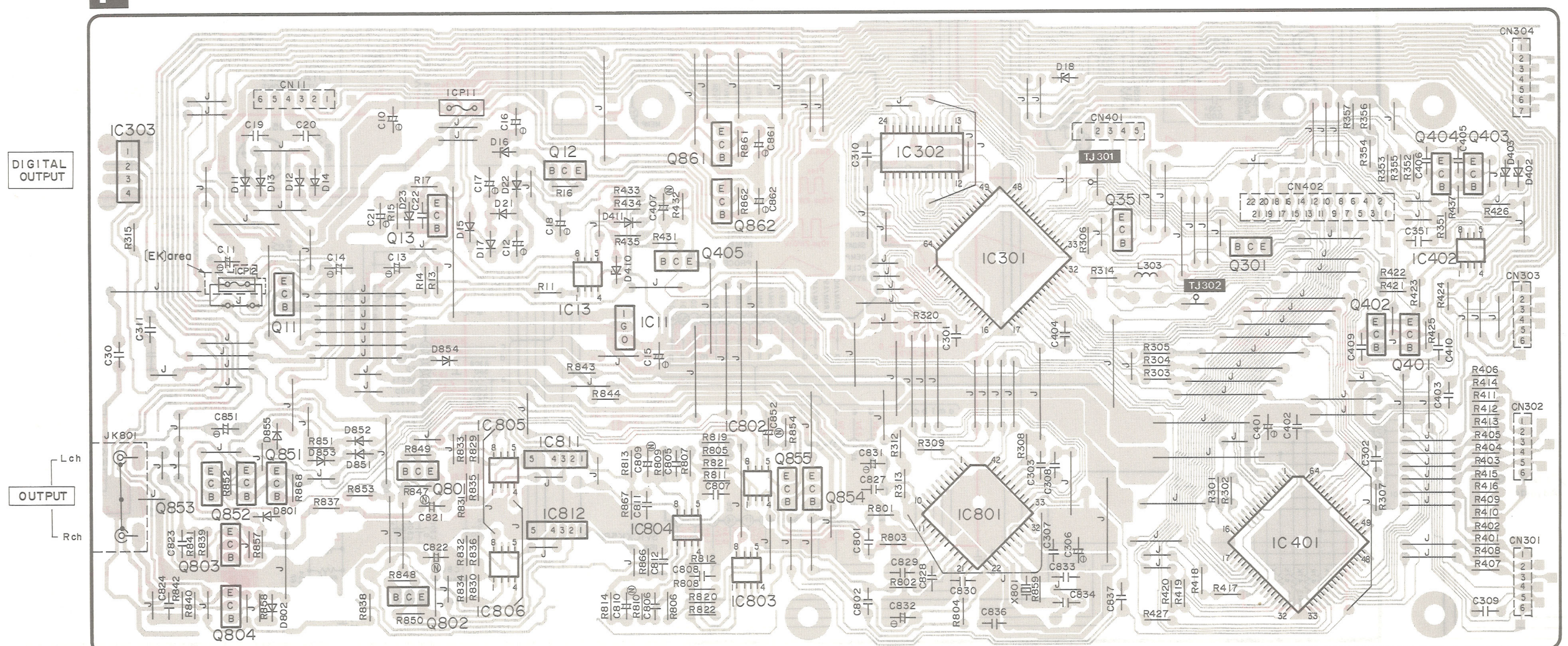
B DISC ILLUMINATOR P.C.B.

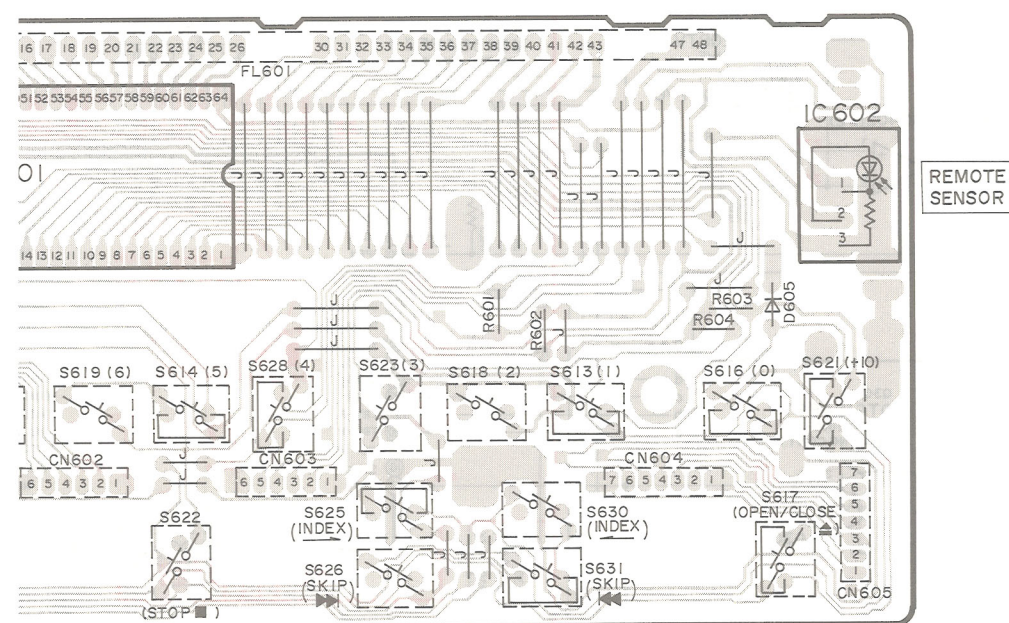


C SEARCH P.C.B.

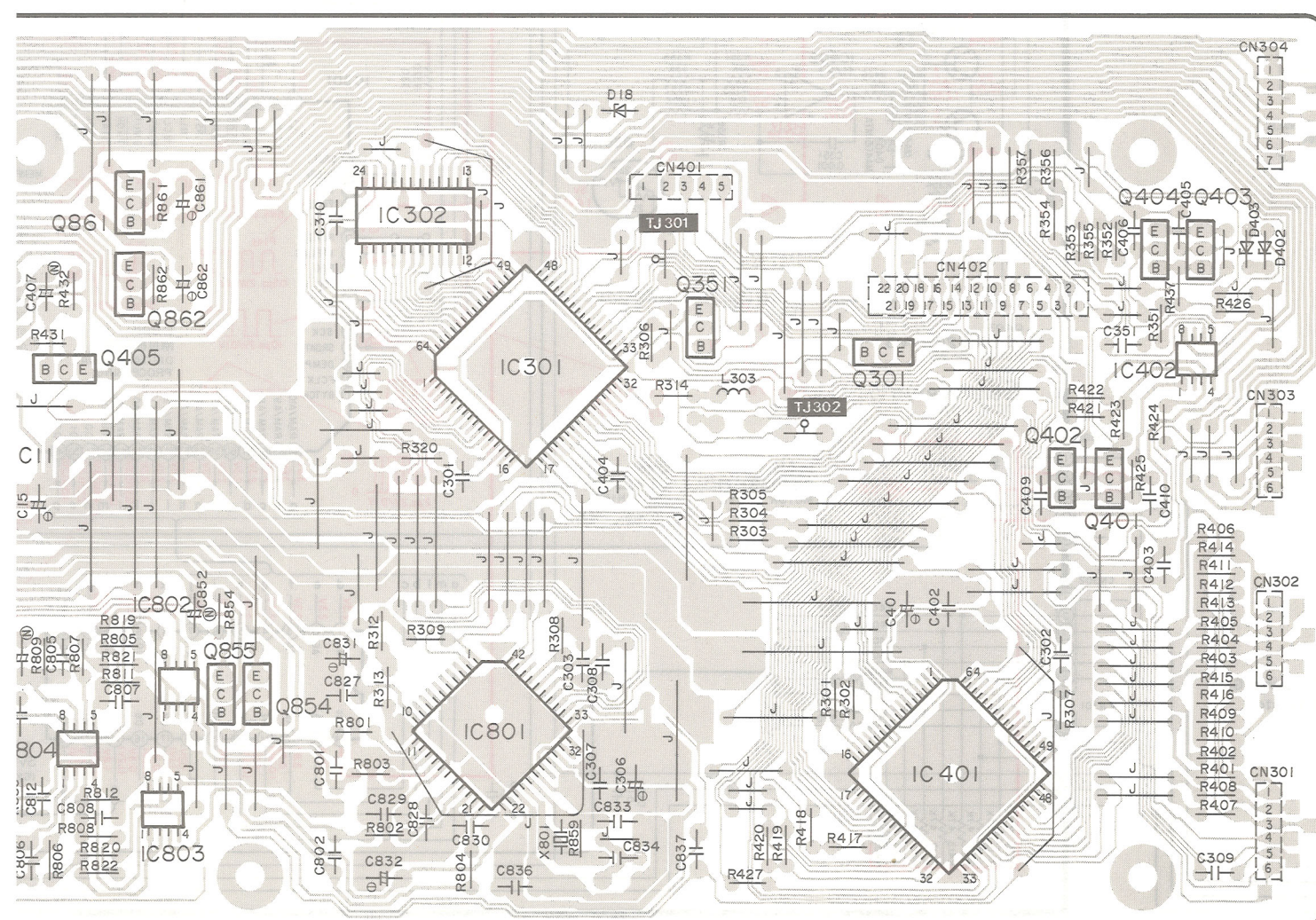
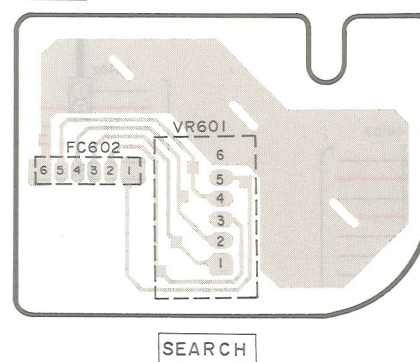
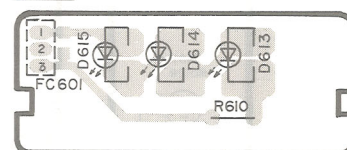


F MAIN P.C.B.

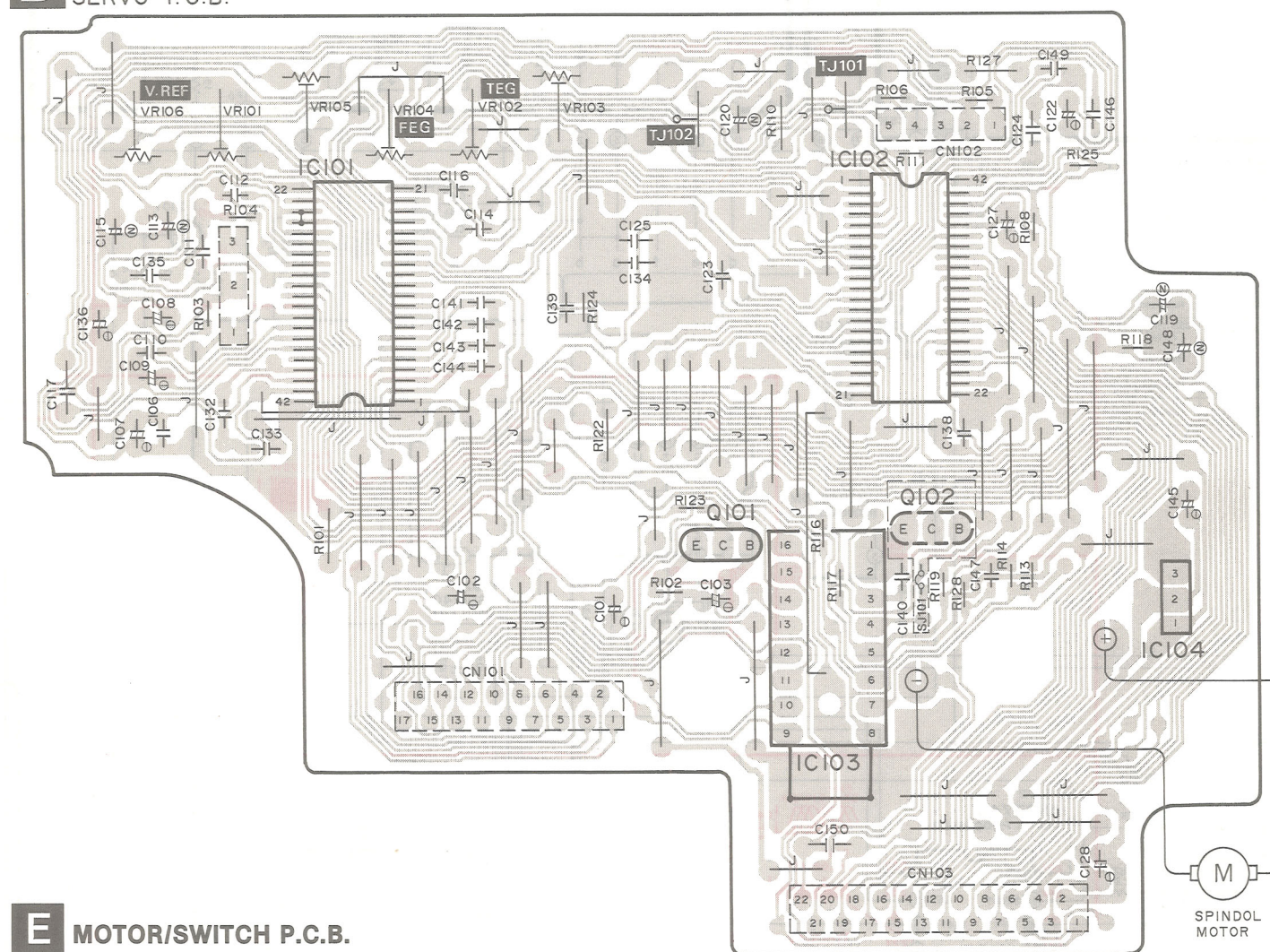
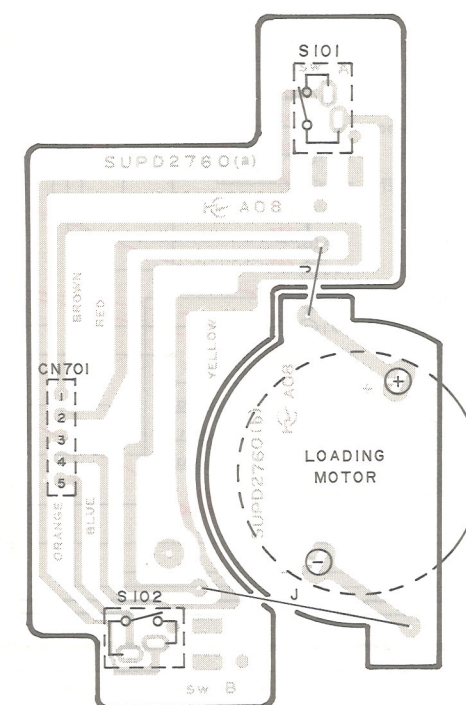




B DISC ILLUMINATOR P.C.B.



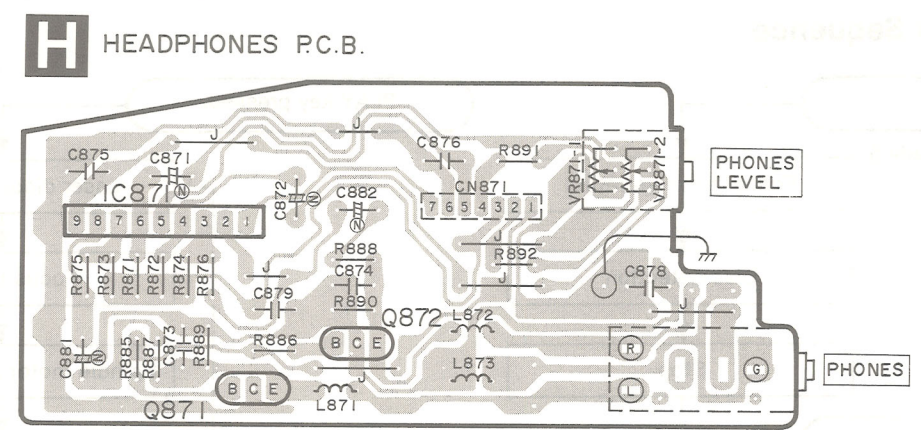
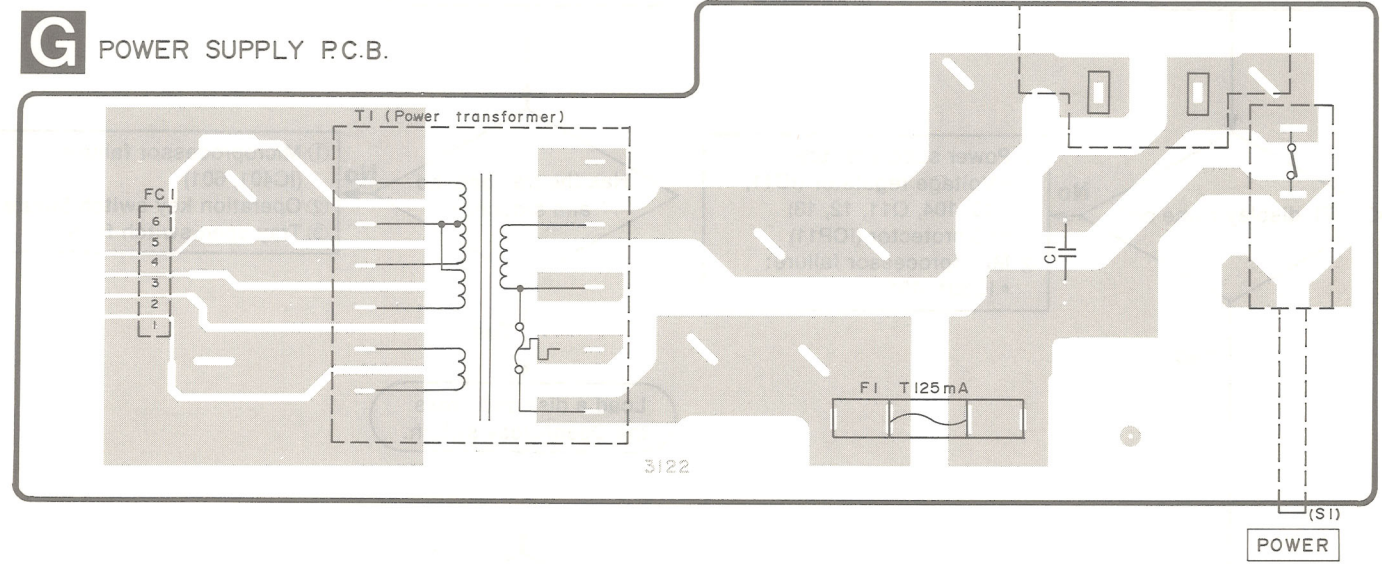
D SERVO P.C.B.

**E MOTOR/SWITCH P.C.B.**

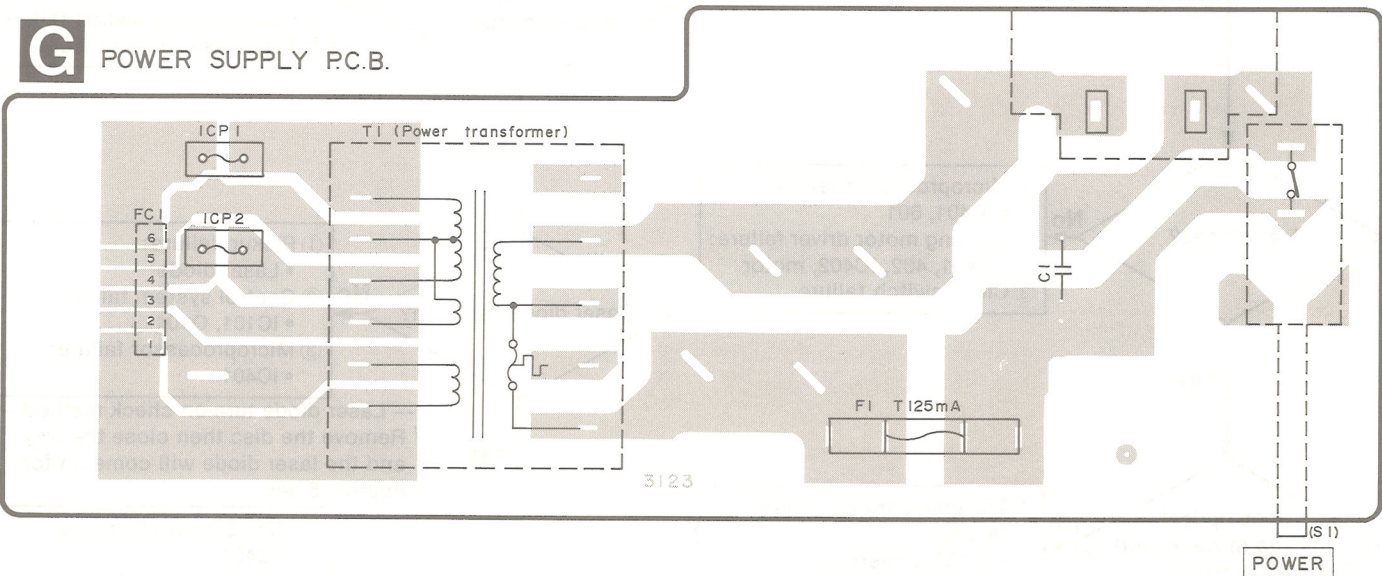
Note: Original circuit uses AN8377 for IC103 while the new circuit uses AN8377N for IC103.
(Refer to the table below for other changes.)

IC103 Modifications	AN8377	AN8377N
IC104	LM2940T5M	Removed
Q102	Removed	2SB1240QR Added
C140	0.01μF	Removed
C145	6V 100μF	Removed
Jumper SJ101	Removed	Shorted

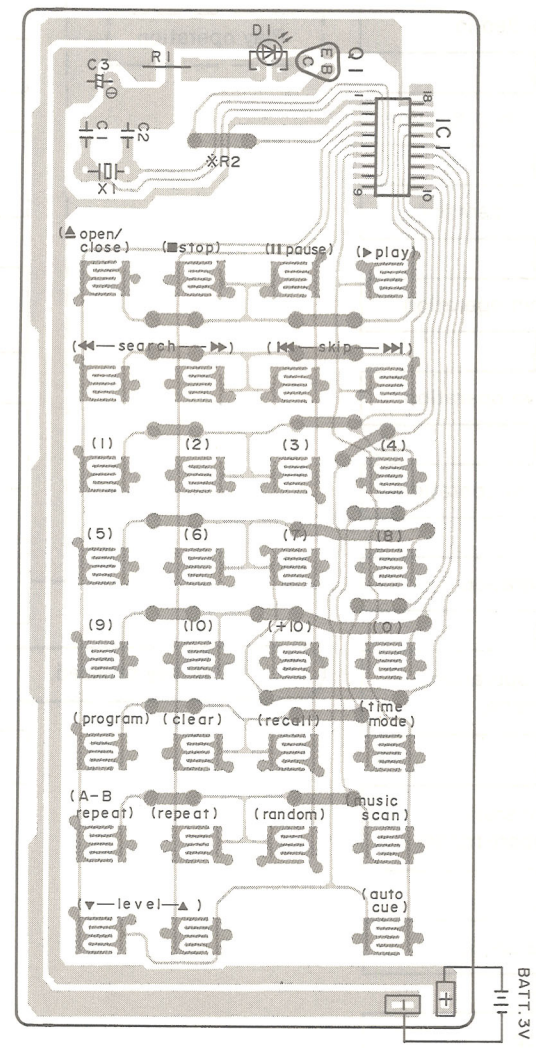
• For (E), (XL), (EG), (EB), (EH) and (Ei) areas.



• For (EK) area.

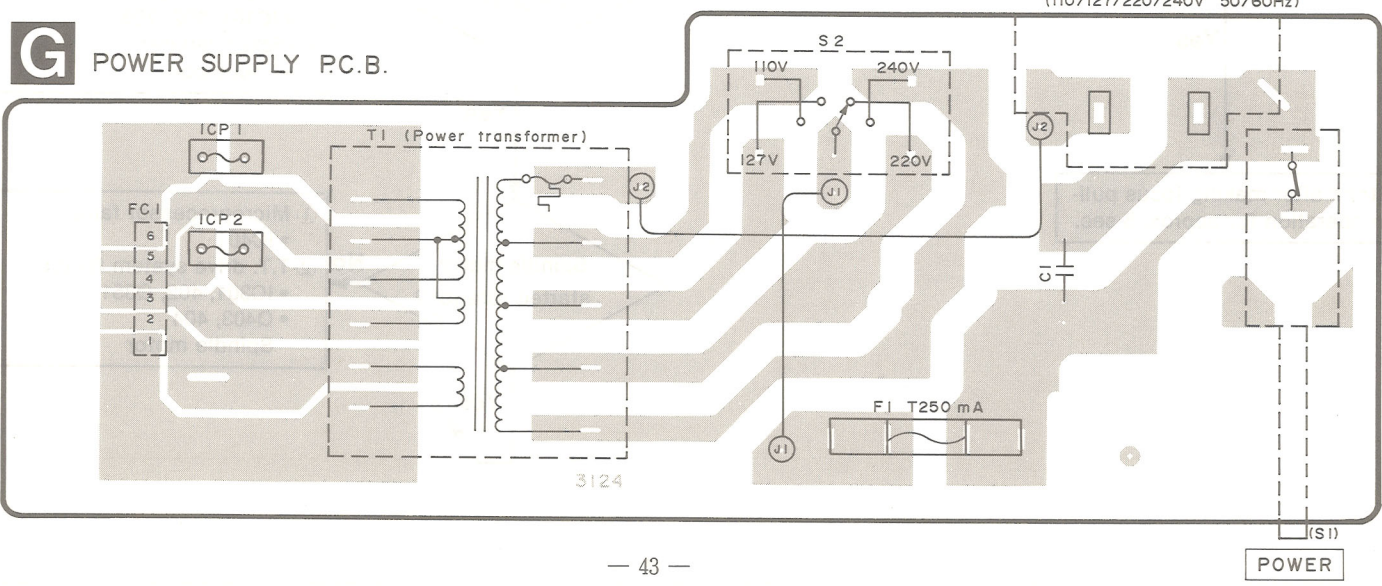


• Remote control transmitter



※ R2: Printed resistor

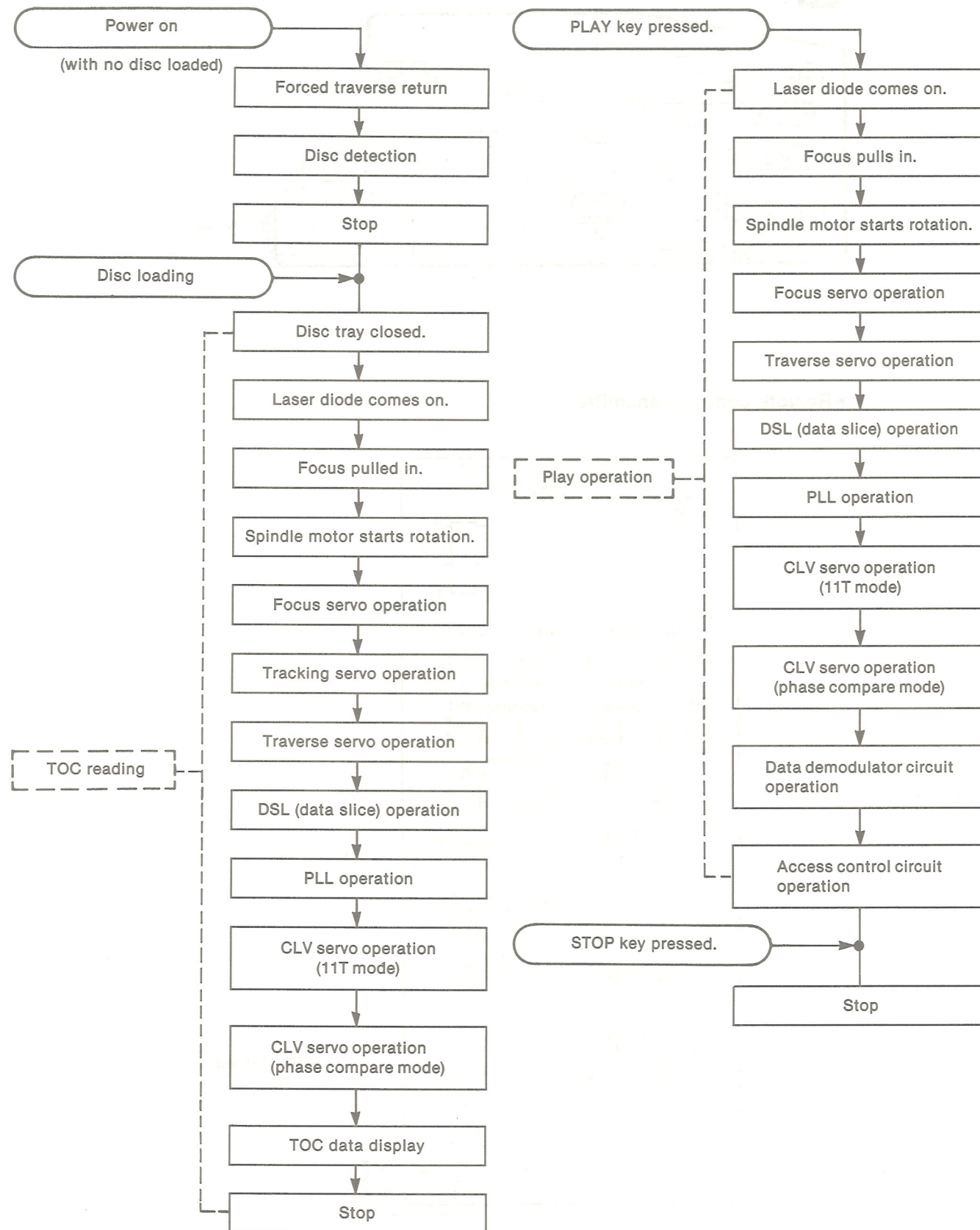
• For (XA), (XB), (PA), (PE) and (PC) areas.



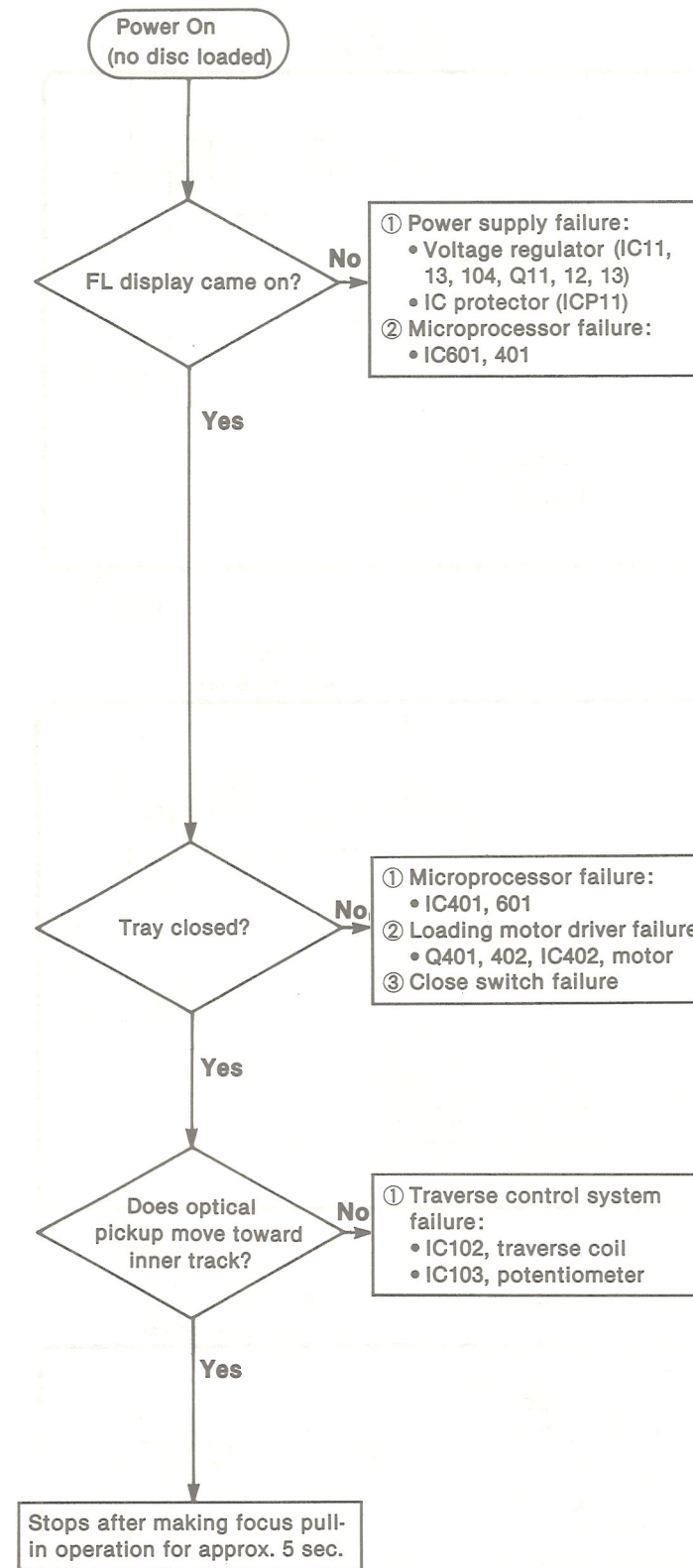
TROUBLESHOOTING GUIDE

SL-P555 Operation Sequence Check Sheet

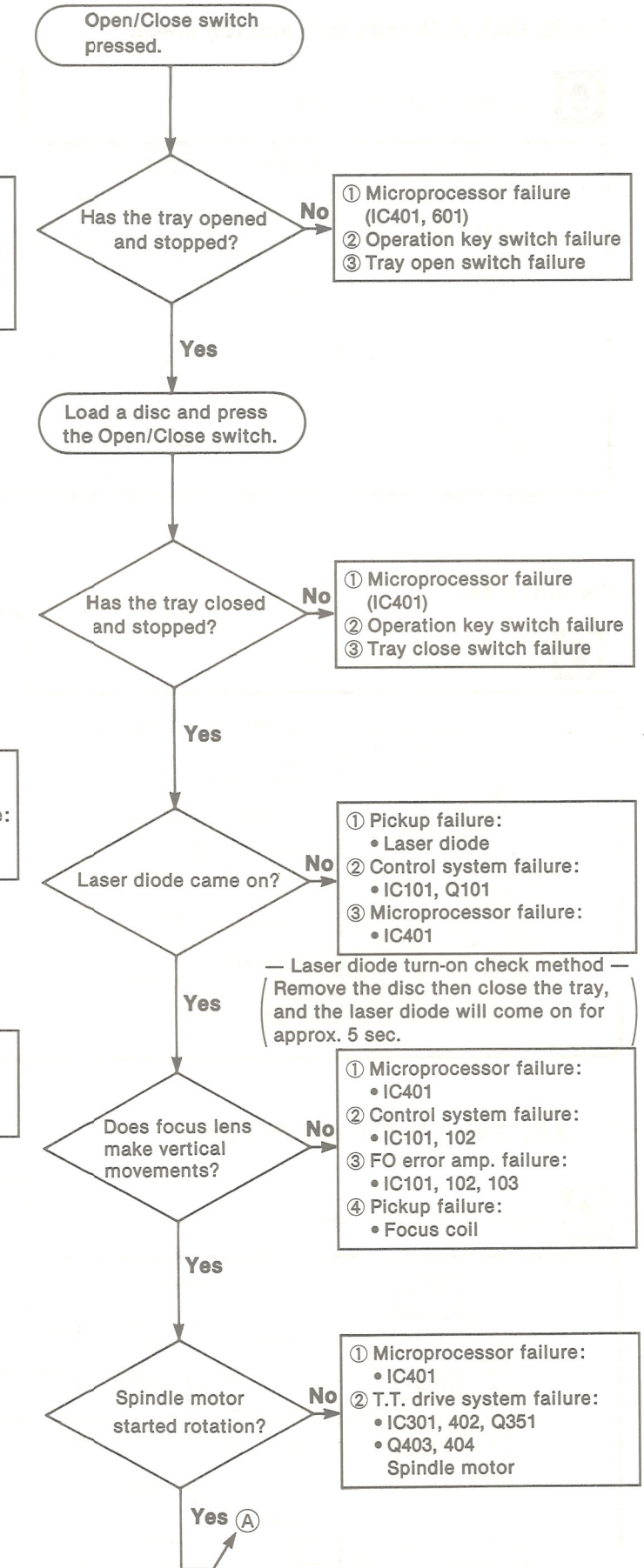
Play Operation Sequence

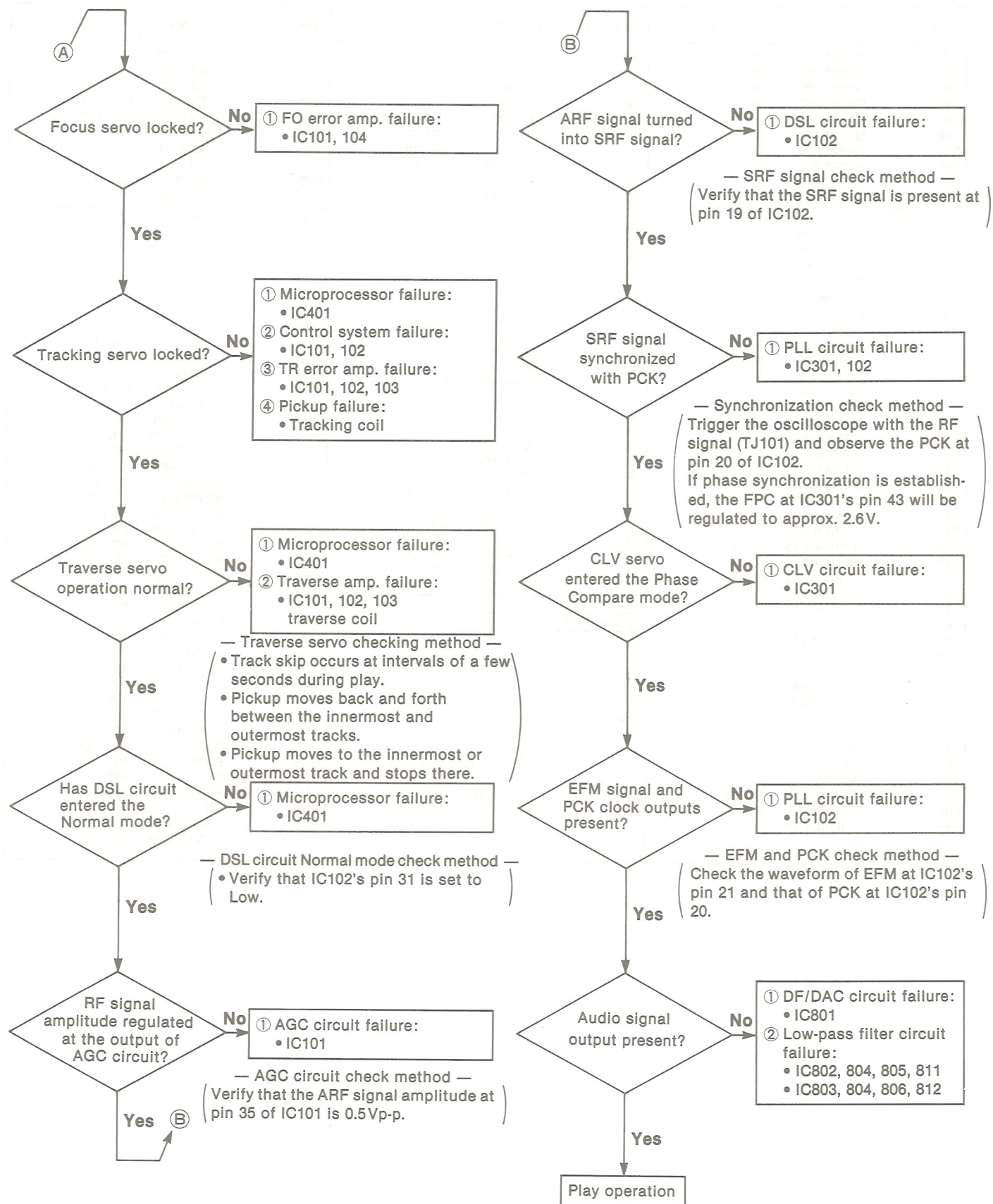


(Operation Sequence Just After Power On)



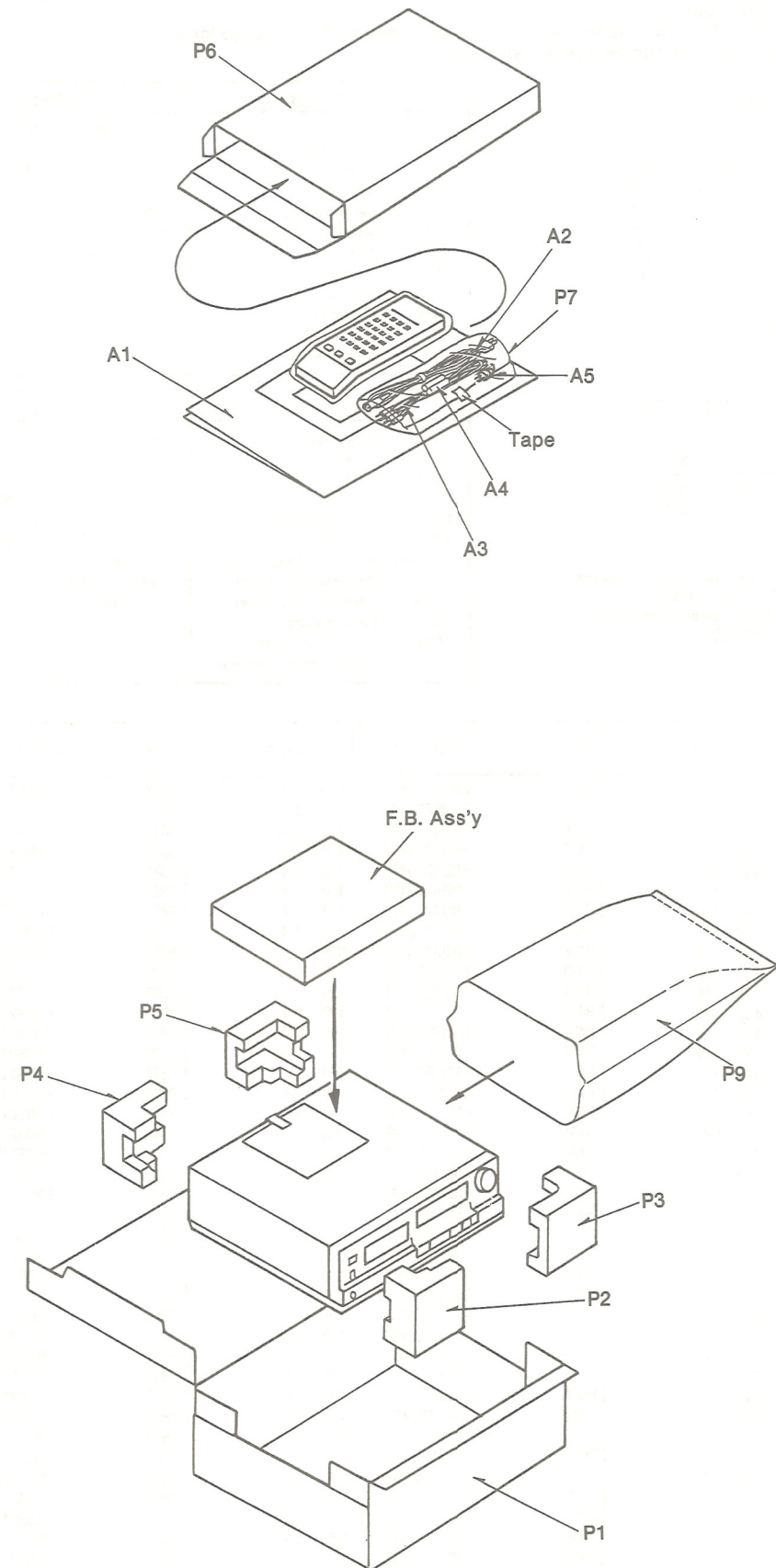
(TOC Read Operation-PLAY Operation)





PACKING

• F.B. Ass'y



RESISTORS & CAPACITORS

Notes : * Important safety notice :

Components identified by Δ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

* Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)

Parts without these indications can be used for all areas.

Numbering System For Resistors

Example:

ERD	25	F	J	102
Type	Wattage (1/4W)	Shape	Tolerance	Value (1K Ω)
ERX	2	AN	J	471
Type	Wattage (2W)	Shape	Tolerance	Value (470 Ω)

Numbering System For Capacitors

Example:

ECKD	1H	102	Z	F
Type	Voltage (50V)	Value (0.001 μ F)	Tolerance	Unique
ECEA	50	M		330
Type	Voltage (50V)	Characteristics		Value (33 μ F)

● Capacity values are in microfarads (μ F) unless specified otherwise, P= Pico-farads (pF) F= Farads (F).

● Resistance values are in ohms (Ω), unless specified otherwise, 1K= 1,000 Ω , 1M= 1,000k Ω

Resistor Type	Wattage	Tolerance
ERD : Carbon	10 : 1/8W 12 : 1/2W	J : $\pm$ 5%
ERG : Metal Oxide	14 : 1/4W 25 : 1/4W	F : $\pm$ 1%
ERQ : Fuse Type Metal	1A : 1W 18 : 1/8W	G : $\pm$ 2%
ERX : Metal Film	S2 : 1/4W S1 : 1/2W	J : $\pm$ 5%
ERD L : Carbon (chip)	2F : 1/4W 50 : 1/2W	K : $\pm$ 10%
ERO K : Metal Film (chip)	2A : 2W 3A : 3W	M : $\pm$ 20%
ERC : Solid	6G : 1/10W 8G : 1/8W	
ERF : Incombustible Box-Shaped		
ERM : Wire-Wound		
RRJ : Chip Resistor		
ERJ : Chip Resistor		

Capacitor Type	Voltage	Tolerance
ECE : Electrolytic	0J : 6.3V 1A : 10V	K : $\pm$ 10%
ECCD : Ceramic	1C : 16V 1E : 25V	M : $\pm$ 20%
ECKD : Ceramic Capacitor	1H : 50V 1V : 35V	Z : +80 % -20
ECQM : Polyester	50 : 50V 05 : 50V	J : $\pm$ 5%
ECQP : Polypropylene	2H : 500V 2A : 100V	G : $\pm$ 2%
ECG : Ceramic	1 : 100V 1J : 63V	F : $\pm$ 1%
ECEA N : Non Polar Electrolytic	KC : 400V AC	C : $\pm$ 0.25pF
OCU : Ceramic (Chip Type)	KC : 125V AC	D : $\pm$ 0.5pF
ECUX : Ceramic (Chip Type)	(UL)	
ECF : Semiconductor		
EECW : Liquid electrolyte double layer capacitor		

Ref. No.	Part No.	Value.	Ref. No.	Part No.	Value.	Ref. No.	Part No.	Value.
RESISTORS(VALUE,WATTAGE)			R414	ERDS2TJ472	4.7K 1/4	R813	ERDS2TJ221	220 1/4
R11	ERDS2TJ101	100 1/4	R415	ERDS2TJ472	4.7K 1/4	R814	ERDS2TJ221	220 1/4
R13	ERDS2TJ103	10K 1/4	R416	ERDS2TJ472	4.7K 1/4	R819	ERDS2TJ821	820 1/4
R14	ERDS2TJ103	10K 1/4	R417	ERDS2TJ472	4.7K 1/4	R820	ERDS2TJ821	820 1/4
R15	ERDS2TJ331	330 1/4	R418	ERDS2TJ472	4.7K 1/4	R821	ERDS2TJ821	820 1/4
R16	ERDS2TJ102	1K 1/4	R419	ERDS2TJ472	4.7K 1/4	R822	ERDS2TJ821	820 1/4
R17	ERDS2TJ471	470 1/4	R420	ERDS2TJ472	4.7K 1/4	R829	ERDS2TJ333	33K 1/4
R301	ERDS2TJ472	4.7K 1/4	R421	ERDS2TJ913T	91K 1/4	R830	ERDS2TJ333	33K 1/4
R302	ERDS2TJ472	4.7K 1/4	R422	ERDS2TJ913T	91K 1/4	R831	ERDS2TJ101	100 1/4
R303	ERDS2TJ472	4.7K 1/4	R423	ERDS2TJ124	120K 1/4	R832	ERDS2TJ101	100 1/4
R304	ERDS2TJ472	4.7K 1/4	R424	ERDS2TJ124	120K 1/4	R833	ERDS2TJ103	10K 1/4
R305	ERDS2TJ472	4.7K 1/4	R425	ERDS2TJ101	100 1/4	R834	ERDS2TJ103	10K 1/4
R306	ERDS2TJ472	4.7K 1/4	R426	ERDS2TJ101	100 1/4	R835	ERDS2TJ331	330 1/4
R307	ERDS2TJ104	100K 1/4	R427	ERDS2TJ472	4.7K 1/4	R836	ERDS2TJ331	330 1/4
R308	ERDS2TJ561	560 1/4	R431	ERDS2TJ472	4.7K 1/4	R837	ERDS2TJ471	470 1/4
R309	ERDS2TJ472	4.7K 1/4	R432	ERDS2TJ101	100 1/4	R838	ERDS2TJ471	470 1/4
R312	ERDS2TJ100	10 1/4	R433	ERDS2TJ153	15K 1/4	R839	ERDS2TJ331	330 1/4
R313	ERDS2TJ100	10 1/4	R434	ERDS2TJ383	38K 1/4	R840	ERDS2TJ331	330 1/4
R314	ERDS2TJ331	330 1/4	R435	ERDS2TJ102	1K 1/4	R841	ERDS2TJ473	47K 1/4
R315	ERDS2TJ822	8.2K 1/4	R437	ERDS2TJ101	100 1/4	R842	ERDS2TJ473	47K 1/4
R320	ERDS2TJ331	330 1/4	R601	ERDS2TJ472	4.7K 1/4	R843	ERDS2TJ331	330 1/4
R351	ERDS2TJ103	10K 1/4	R602	ERDS2TJ472	4.7K 1/4	R844	ERDS2TJ331	330 1/4
R352	ERDS2TJ154	150K 1/4	R603	ERDS2TJ472	4.7K 1/4	R847	ERDS2TJ102	1K 1/4
R353	ERDS2TJ123	12K 1/4	R604	ERDS2TJ472	4.7K 1/4	R848	ERDS2TJ102	1K 1/4
R354	ERDS2TJ154	150K 1/4	R605	ERDS2TJ472	4.7K 1/4	R849	ERDS2TJ105	1M 1/4
R355	ERDS2TJ333	33K 1/4	R606	ERDS2TJ472	4.7K 1/4	R850	ERDS2TJ105	1M 1/4
R356	ERDS2TJ333	33K 1/4	R607	ERDS2TJ472	4.7K 1/4	R851	ERDS2TJ102	1K 1/4
R357 Δ	ERD25FVJ8R2T	8.2 1/4	R608	ERDS2TJ472	4.7K 1/4	R852	ERDS2TJ103	10K 1/4
R401	ERDS2TJ221	220 1/4	R609	ERDS2TJ104	100K 1/4	R853	ERDS2TJ333	33K 1/4
R402	ERDS2TJ221	220 1/4	R610	ERDS2TJ221	220 1/4	R854	ERDS2TJ183	18K 1/4
R403	ERDS2TJ221	220 1/4	R801	ERDS2TJ473	47K 1/4	R857	ERDS2TJ102	1K 1/4
R404	ERDS2TJ221	220 1/4	R802	ERDS2TJ473	47K 1/4	R858	ERDS2TJ102	1K 1/4
R405	ERDS2TJ221	220 1/4	R803	ERDS2TJ473	47K 1/4	R859	ERDS2TJ472	4.7K 1/4
R406	ERDS2TJ221	220 1/4	R804	ERDS2TJ473	47K 1/4	R861	ERDS2TJ102	1K 1/4
R407	ERDS2TJ221	220 1/4	R805	ERDS2TJ103	10K 1/4	R862	ERDS2TJ102	1K 1/4
R408	ERDS2TJ221	220 1/4	R806	ERDS2TJ103	10K 1/4	R866	ERDS2TJ105	1M 1/4
R409	ERDS2TJ472	4.7K 1/4	R807	ERDS2TJ103	10K 1/4	R867	ERDS2TJ105	1M 1/4
R410	ERDS2TJ472	4.7K 1/4	R808	ERDS2TJ103	10K 1/4	R868	ERDS2TJ332	3.3K 1/4
R411	ERDS2TJ472	4.7K 1/4	R809	ERDS2TJ153	15K 1/4	R871	ERDS2TJ103	10K 1/4
R412	ERDS2TJ472	4.7K 1/4	R810	ERDS2TJ153	15K 1/4	R872	ERDS2TJ103	10K 1/4
R413	ERDS2TJ472	4.7K 1/4	R811	ERDS2TJ153	15K 1/4	R873	ERDS2TJ123	12K 1/4
			R812	ERDS2TJ153	15K 1/4	R874	ERDS2TJ123	12K 1/4

Ref. No.	Part No.	Value.	Ref. No.	Part No.	Value.	Ref. No.	Part No.	Value.
R875	ERDS2TJ104	100K 1/4	C806	ECBT1H121KB5	120P 50	R117	ERJ6GEYJ123	12K 1/10
R876	ERDS2TJ104	100K 1/4	C807	ECBT1H121KB5	120P 50	R118	ERJ6GEYJ333V	33K 1/10
R885	ERDS2TJ222	2.2K 1/4	C808	ECBT1H121KB5	120P 50	R119	RRJ6GCJ223TE	22K 1/6
R886	ERDS2TJ222	2.2K 1/4	C809	ECEA1EN3R3S	3.3 25	R122	ERDS2TJ104	100K 1/4
R887	ERDS2TJ680	68 1/4	C810	ECEA1EN3R3S	3.3 25	R123	ERJ6GEYJ470V	47 1/10
R888	ERDS2TJ680	68 1/4	C811	ECBT1H102KB5	0.001 50	R124	RRJ6GCJ103TE	10K 1/6
R889	ERDS2TJ470	47 1/4	C812	ECBT1H102KB5	0.001 50	R125	RRJ6GCJ222TE	2.2K 1/6
R890	ERDS2TJ470	47 1/4	C821	ARA1CN220MOT	22 16	R127	ERDS2TJ681	680 1/4
R891	ERDS2TJ102	1K 1/4	C822	ARA1CN220MOT	22 16	R128	RRJ6GCJ103TE	10K 1/6
R892	ERDS2TJ102	1K 1/4	C823	ECBT1H102KB5	0.001 50	CAPACITORS(VALUE,VOLTAGE)		
CAPACITORS(VALUE,VOLTAGE)			C824	ECBT1H102KB5	0.001 50	C101	ECEA1CKS220I	22 16
C1	Δ ECKDKC103PF2	0.01 125	C827	ECFR1E104ZF5	0.1 25	C102	ECEA1HKS010I	1 50
C10	ECEA1CU332	3300 16	C828	ECFR1E104ZF5	0.1 25	C103	ECEA1CKS220I	22 16
C11	ECEA1CU222	2200 16	C829	ECFR1E104ZF5	0.1 25	C106	RCUV1E104ZF	0.1 25
C12	ECEA1VU101	100 35	C830	ECFR1E104ZF5	0.1 25	C107	ECEA0GKS101I	100
C13	ECEA1AK101	100 10	C831	ECEA0JS331	330 6.3	C108	ECEA0JKS470I	47 6.3
C14	ECEA1AK101	100 10	C832	ECEA0JS331	330 6.3	C109	ECEA1HKS010I	1 50
C15	ECEA0JK470	47 6.3	C833	ECBT1H5R6K5	5.6P 50	C110	RCUV1H681KB	680P 50
C16	ECEA1CU331	330 16	C834	ECBT1H5R6K5	5.6P 50	C111	ECUV1C224KR	0.22 16
C17	ECEA1CU331	330 16	C836	ECFR1E104ZF5	0.1 25	C112	RCUV1H331KB	330P 50
C18	ECEA1VU101	100 35	C837	ECFR1E104ZF5	0.1 25	C113	ECEA1HSN010I	1 50
C19	Δ ECFTD103KXL	0.01 25	C851	ECEA0JU471	470 6.3	C114	RCUV1E333KB	0.033 25
C20	Δ ECFTD103KXL	0.01 25	C852	ECEA1CKN100B	10 16	C115	ECEA1HSN010I	1 50
C21	ECEA1CU221	220 16	C861	ECEA1AK101	100 10	C116	RCUV1E333KB	0.033 25
C22	ECBT1C103NS5	0.01 16	C862	ECEA1AK101	100 10	C117	ECBT1H102KB5	0.001 50
C30	ECFR1E104ZF5	0.1 25	C871	ECEA1EKN3R3B	3.3 25	C119	ECEA1CKN4R7I	4.7 16
C301	ECFR1E104ZF5	0.1 25	C872	ECEA1EKN3R3B	3.3 25	C120	ECEA1CKN4R7I	4.7 16
C302	ECBT1C103NS5	0.01 16	C873	ECQM1H103KF	0.01 50	C122	ECEA0JKS220I	22 6.3
C303	ECBT1H6R8K5	6.8P 50	C874	ECQM1H103KF	0.01 50	C123	RCUV1E104ZF	0.1 25
C306	ECEA0JK101	100 6.3	C875	ECFTD103KXL	0.01 25	C124	ECUV1E823KB	0.082 25
C307	ECFR1E104ZF5	0.1 25	C876	ECFTD103KXL	0.01 25	C125	ECUV1C224KR	0.22 16
C308	ECFR1E104ZF5	0.1 25	C878	ECFTD103KXL	0.01 25	C127	ECEA0JKF101I	100 6.3
C309	ECBT1C103NS5	0.01 16	C879	ECFTD103KXL	0.01 25	C128	ECEA1CKA101I	100 16
C310	ECFR1E104ZF5	0.1 25	C881	ECEA1CN101SE	100 16	C132	ECUV1E104KB	0.1 25
C311	ECFR1E104ZF5	0.1 25	C882	ECEA1CN101SE	100 16	C133	RCUV1H330KC	33P 50
C351	ECBT1H102KB5	0.001 50	SERVO P.C.B.			C134	ECUV1C224KR	0.22 16
C401	ECEA0JK470	47 6.3	RESISTORS(VALUE,WATTAGE)			C135	ECUV1C224KR	0.22 16
C402	ECFR1E104ZF5	0.1 25	R101	ERDS2TJ471	470 1/4	C136	ECEA0GKS101I	100
C403	ECFR1E104ZF5	0.1 25	R102	ERJ6GEYJ120V	12 1/10	C138	RCUV1E104ZF	0.1 25
C404	ECFR1E104ZF5	0.1 25	R103	ERJ6GEYJ122	1.2K 1/10	C139	RCUV1H470KC	47P 50
C405	ECBT1H102KB5	0.001 50	R104	ERJ6GEYJ471	470 1/10	C140	RCUV1E103KB	0.01 25
C406	ECBT1H102KB5	0.001 50	R105	RRJ6GCJ102TE	1K 1/6	C141	RCUV1H470KC	47P 50
C407	ECEA1HKN010B	1 50	R106	RRJ6GCJ102TE	1K 1/6	C142	RCUV1H470KC	47P 50
C409	ECBT1H102KB5	0.001 50	R108	ERJ6GEYJ224V	220K 1/10	C143	RCUV1H470KC	47P 50
C410	ECBT1H102KB5	0.001 50	R110	ERDS2TJ222	2.2K 1/4	C144	RCUV1H470KC	47P 50
C601	ECBT1C103NS5	0.01 16	R111	ERJ6GEYJ154V	150K 1/10	C145	ECEA0JKF101I	100 6.3
C602	ECEA1CKS100	10 16	R113	ERJ6GEYJ472V	4.7K 1/10	C146	RCUV1H181KC	180P 50
C801	ECBT1H220J5	22P 50	R114	ERJ6GEYJ683V	68K 1/10	C147	RCUV1H472KB	0.0047 50
C802	ECBT1H220J5	22P 50	R116	ERJ6GEYJ332V	3.3K 1/10	C148	ECEA1ESN4R7I	4.7 25
C805	ECBT1H121KB5	120P 50				C149	RCUV1E104ZF	0.1 25
						C150	RCUV1E103KB	0.01 25

REPLACEMENT PARTS LIST

Notes : * Important safety notice :

Components identified by  mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

* Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)
Parts without these indications can be used for all areas.

* “” mark parts are used for silver type only.

* “” mark parts are used for black type only.

Parts other than “” and “” marked are used for both silver and black types.

* Remote control ass'y: Supply period for three years from termination of production.

* Warning: This product uses a laser diode. Refer to caution statements on page. 3.

* ACHTUNG:

• Die lasereinheit nicht zerlegen.

• Die lasereinheit darf nur gegen eine vom hersteller spezifizierte einheit ausgetauscht werden.

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
INTEGRATED CIRCUITS			D402	MA4051-M	DIODE
IC11	LM2940T5	I.C. REGULATOR	D403	MA4051-M	DIODE
IC13	SV1BA4558F	I.C. RESET	D410	MA4033M	DIODE
IC301	MN6625	I.C. DIGITAL SIGNAL PROCESSING	D411	MA165	DIODE
IC302	SV1CXK5816M	I.C. 16K RAM	D601	MA165	DIODE
IC303	SV1TOTX174	I.C. OPTICAL TRANSMISSION	D602	MA165	DIODE
IC401	MN1554PEZ-1	I.C. SYSTEM CONTROL	D603	MA165	DIODE
IC402	SV1BA4558F	I.C. MOTOR DRIVE	D604	MA165	DIODE
IC601	MB88724BPJC	I.C. SYSTEM CONTROL/FL DRIVE	D605	MA165	DIODE
IC602	HC-MD10E	I.C. REMOTE SENSOR	D606	MA165	DIODE
IC801	MN6471	I.C. D.F. D/A CONVERTER	D607	MA165	DIODE
IC802	LM833M	I.C. BUFFER AMP	D608	MA165	DIODE
IC803	LM833M	I.C. BUFFER AMP	D609	MA165	DIODE
IC804	LM833M	I.C. BUFFER AMP	D610	MA165	DIODE
IC805	NJM4560M	I.C. BUFFER AMP	D611	MA165	DIODE
IC806	NJM4560M	I.C. BUFFER AMP	D612	MA165	DIODE
IC811	SV1H8DN2175	I.C. L.P.F.	D613	SVDSLRL-54MW4	L.E.D
IC812	SV1H8DN2175	I.C. L.P.F.	D614	SVDSLRL-54MW4	L.E.D
IC871	SV1NJM4556SA	I.C. HEADPHONES AMP	D615	SVDSLRL-54MW4	L.E.D
ICP1 	SRUF38	I.C.PROTECTOR	D801	MA165	DIODE
(EK, XA)			D802	MA165	DIODE
ICP2 	SRUF38	I.C.PROTECTOR	D851	MA165	DIODE
(EK, XA)			D852	MA165	DIODE
ICP11 	SRUN15	I.C.PROTECTOR	D853	MA165	DIODE
ICP12 	SRUN15	I.C.PROTECTOR	D854	MA165	DIODE
(EK)			D855	MA165	DIODE
TRANSISTORS			VARIABLE RESISTORS		
Q11	2SB1240-P	TRANSISTOR	VR601	EVQWVP02504E	V.R. SEARCH
Q12	2SB1238Q.S	TRANSISTOR	VR871	EVU57A022A14	V.R. PHONE LEVEL
Q13	2SD1862-P	TRANSISTOR	COILS AND TRANSFORMERS		
Q301	DTC124EST	TRANSISTOR	L303	ELEPK5R6KA	COIL
Q351	DTA124EST	TRANSISTOR	L601	VLP0053	COIL
Q401	2SD1862-P	TRANSISTOR	L871	ELEPK1R0KA	COIL
Q402	2SB1240-P	TRANSISTOR	L872	ELEPK1R0KA	COIL
Q403	2SD1862-P	TRANSISTOR	L873	ELEPK1R0KA	COIL
Q404	2SB1240-P	TRANSISTOR	T1 	SLTD5K061SE	POWER TRANSFORMER
Q405	DTC124EST	TRANSISTOR	(E, EB, EH, EF)		
Q801	2SC3311A-Q	TRANSISTOR	(E1, EG)		
Q802	2SC3311A-Q	TRANSISTOR	T1 	SLTD5K062SG	POWER TRANSFORMER
Q803	2SD1450R	TRANSISTOR	(EK, XL)		
Q804	2SD1450R	TRANSISTOR	T1 	SLTD5K063SX	POWER TRANSFORMER
Q851	DTA114EST	TRANSISTOR	(XB, XA, PA)		
Q852	2SA1309Q	TRANSISTOR	(PE, PC)		
Q853	DTA124EST	TRANSISTOR	OSCILLATORS		
Q854	DTC124EST	TRANSISTOR	X801	SVQ49U338S	OSCILLATOR
Q855	DTA124EST	TRANSISTOR	DISPLAYS		
Q861	2SC3311A-Q	TRANSISTOR	FL601	SAD14MT10GK	DISPLAY
Q862	2SA1309Q	TRANSISTOR	FUSES		
Q871	2SD1450R	TRANSISTOR	F1 	XBA2C012TB0S	FUSE(250V,T125mA)
Q872	2SD1450R	TRANSISTOR	(E, EG, EB, EH)		
DIODES			(EF, E1, EK)		
D11 	SVDS5688GT3	DIODE, SI	(XL)		
D12 	SVDS5688GT3	DIODE, SI	F1 	XBA2C025TB0	FUSE(250V,T250mA)
D13 	SVDS5688GT3	DIODE, SI	(XB, XA, PA)		
D14 	SVDS5688GT3	DIODE, SI	(PE, PC)		
D15 	SVDS5688GT3	DIODE, SI	SWITCHES		
D16	MA4330M	DIODE	S1 	ESB8249V	SW. POWER
D17 	SVDS5688GT3	DIODE, SI	S2 	SSR187-1	SW. VOLTAGE SELECTOR
D18	MA4062-H	DIODE	(XA, XB, PA)		
D21 	SVDS5688GT3	DIODE, SI	(PE, PC)		
D22 	SVDS5688GT3	DIODE, SI			
D23	MA4062-H	DIODE			

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
S101	SSPD17	SW. LOADING DET	S625	EVQQTG07K	SW. INDEX(F)
S102	SSPD18	SW. LOADING DET	S626	EVQQTG07K	SW. SKIP(F)
S601	EVQQTG07K	SW. SIDE A/B	S627	EVQQTG07K	SW. PAUSE
S602	EVQQTG07K	SW. AUTO CUE	S628	EVQQTG07K	SW. NO.4
S603	EVQQTG07K	SW. PROGRAM	S629	EVQQTG07K	SW. NO.8
S604	EVQQTG07K	SW. EDIT/TAPE LENGTH	S630	EVQQTG07K	SW. INDEX(R)
S605	EVQQTG07K	SW. PEAK SEARCH	S631	EVQQTG07K	SW. SKIP(R)
S606	EVQQTG07K	SW. REPEAT	SERVO P.C.B.		
S607	EVQQTG07K	SW. DISPLAY MODE	INTEGRATED CIRCUITS		
S608	EVQQTG07K	SW. RECALL	IC101	AN8373S	I.C. SERVO AMP
S609	EVQQTG07K	SW. DISC LINK	IC102	AN8374S	I.C. SERVO PROCESSOR
S610	EVQQTG07K	SW. PLAY	IC103	AN8377	I.C. B.T.L DRIVE
S611	EVQQTG07K	SW. TIME MODE	IC104	LM2940T5M	I.C. RESET
S612	EVQQTG07K	SW. CLEAR	TRANSISTORS		
S613	EVQQTG07K	SW. NO.1	Q101	2SA1547QSTV2	TRANSISTOR
S614	EVQQTG07K	SW. NO.5	VARIABLE RESISTORS		
S615	EVQQTG07K	SW. NO.9	VR101	EVND3AA00B14	V.R. BEST EYE ADJ.
S616	EVQQTG07K	SW. NO.0	VR102	EVND3AA00B14	V.R. TRACKING GAIN ADJ.
S617	EVQQTG07K	SW. OPEN/CLOSE	VR103	EVND3AA00B14	V.R. TRACKING OFFSET ADJ.
S618	EVQQTG07K	SW. NO.2	VR104	EVND3AA00B14	V.R. FOCUS GAIN ADJ.
S619	EVQQTG07K	SW. NO.6	VR105	EVND3AA00B14	V.R. FOCUS OFFSET ADJ.
S620	EVQQTG07K	SW. NO.10	VR106	EVND3AA00B24	V.R. TRACKING BALANCE ADJ.
S621	EVQQTG07K	SW. +10	MAGNET RESISTOR ELEMENTS		
S622	EVQQTG07K	SW. STOP	RA1	EWS7M0A00Q53	RESISTANCE UNIT
S623	EVQQTG07K	SW. NO.3			
S624	EVQQTG07K	SW. NO.7			

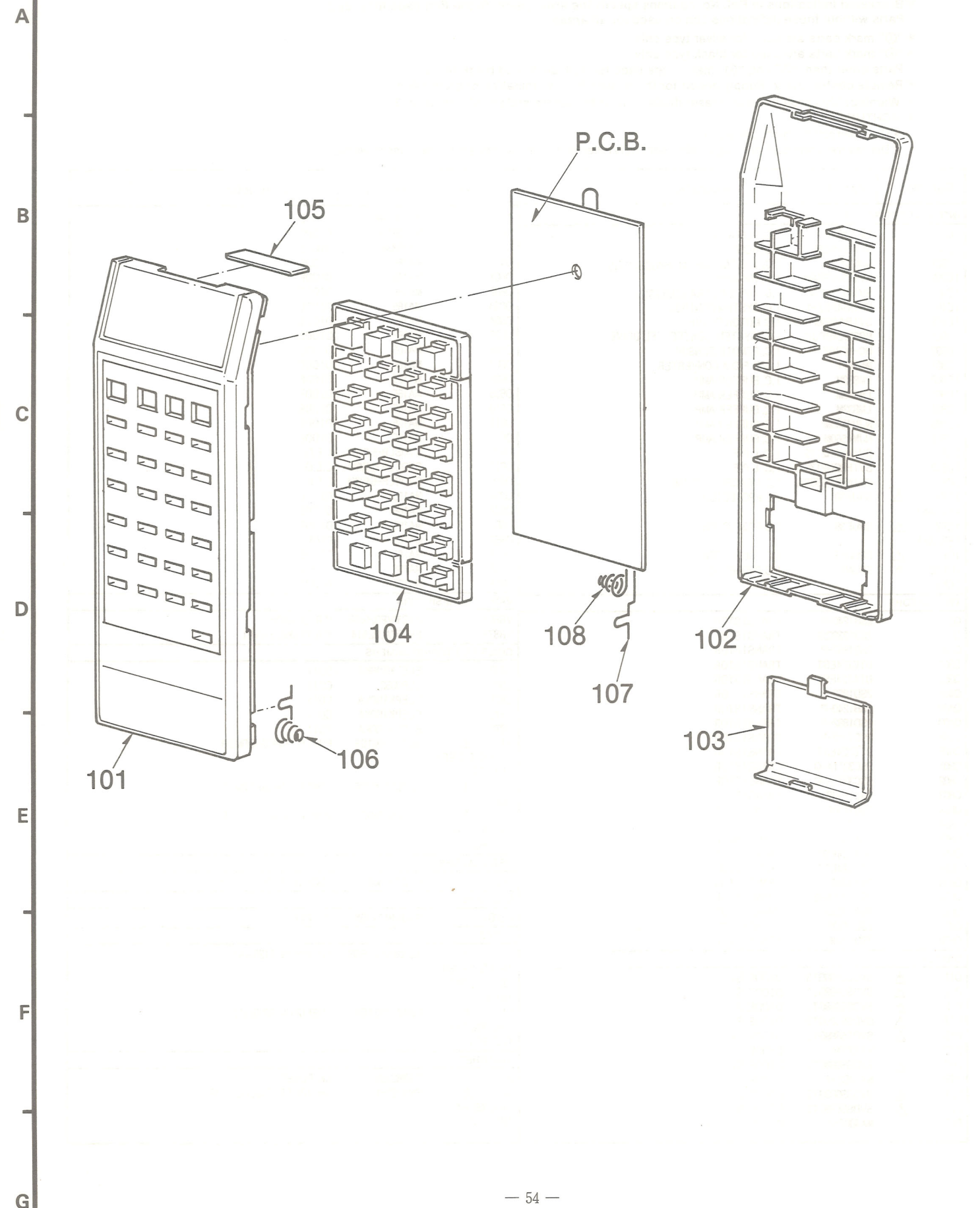
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
PACKING MATERIAL			A1	SQUD394	INSTRUCTION MANUAL
P1 	SPND356	CARTON BOX	(EK)		
(E, EG, EB, EH)			A1	SQULP555-E	INSTRUCTION MANUAL
(E1, EK, XL)			(E, EB, EH)		
(XB, PA, PC)			A1	SQULP555-PA	INSTRUCTION MANUAL
(PE, XA)			(PA, PE, PC)		
P1 	SPND358	CARTON BOX	A1	SQULP555-XB	INSTRUCTION MANUAL
(EF)			(XB)		
P1 	SPND360	CARTON BOX	A2 	SJA168	POWER CORD
(E, EG, EB, EH)			(XA, PA, PE)		
(EF, E1, EK)			(PC)		
(XL)			A2 	SJA173	POWER CORD
P1 	SPND361	CARTON BOX	(XL)		
(EF)			A2 	SJA183	POWER CORD
P2	SPSD192	PAD(FL)	(XB)		
P3	SPSD193	PAD(FR)	A2 	SJA187	POWER CORD
P4	SPSD194	PAD(BL)	(E, EG, EB, EH)		
P5	SPSD195	PAD(BR)	(EF, E1)		
P6	SPSD152	ACCESSORY BOX	A2 	SJA193	POWER CORD
P7	XZB26X17C03	PROTECTION BAG(CORDS)	(EK)		
P9	XZB60X60A01	PROTECTION BAG	A3	SJP2249-3	OUTPUT CORD
ACCESSORIES			A4	UM-4NE/2S	BATTERY
A1	SQUD390	INSTRUCTION MANUAL	(E, EG, EB, EH)		
(EF, XL, XA)			(EF, E1, EK)		
A1	SQUD392	INSTRUCTION MANUAL	(XB, XA, PA)		
(EG)			(PE, PC)		
A1	SQUD393	INSTRUCTION MANUAL	A4	UM-4NEP/2S	BATTERY
(E1)			(XL)		
			A5 	RJP120ZBS-H	AC PLUG ADAPTOR
			(XB, XA, PA)		
			(PE, PC)		

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
REMOTE CONTROL			C3	ECEA0GK101	ELECTROLYTIC, 100 μ F, 4V
INTEGRATED CIRCUITS			MECHANISM PARTS		
IC1	MN6014HS	I.C.	101	UR64VCS710	UPPER CABINET
TRANSISTORS			101	UR64VCS712	UPPER CABINET
Q1	2SC3265Y	TRANSISTOR	102	UR64CS803A	LOWER CABINET
DIODES			102	UR64CS803B	LOWER CABINET
D1	LN66-S	L.E.D.	103	UR64EC804	BATTERY COVER
OSCILLATOR			103	UR64EC804A	BATTERY COVER
X1	CSB420PB6	OSCILLATOR	104	UR64CT805K	BUTTON
RESISTORS			105	UR52SB327	PLATE(SMOKE)
R1	ERD25TLJ1R0U	RESISTOR	106	UR64TD374	BATTERY TERMINAL(COMMON)
CAPACITORS			107	UR64TD808	TERMINAL (+)
C1	ECUV1H471KCG	CAPACITOR	108	UR64TD809	TERMINAL (-)
C2	ECUV1H471KCG	CAPACITOR	REMOTE CONTROL ASS'Y		
			RC1	EUR64766	REMOTE CONTROL (Refer to Notes)
			RC1	EUR64767	REMOTE CONTROL
			(E, EG, EB, EH)		
			(EF, EI, EK)		
			(XL)		

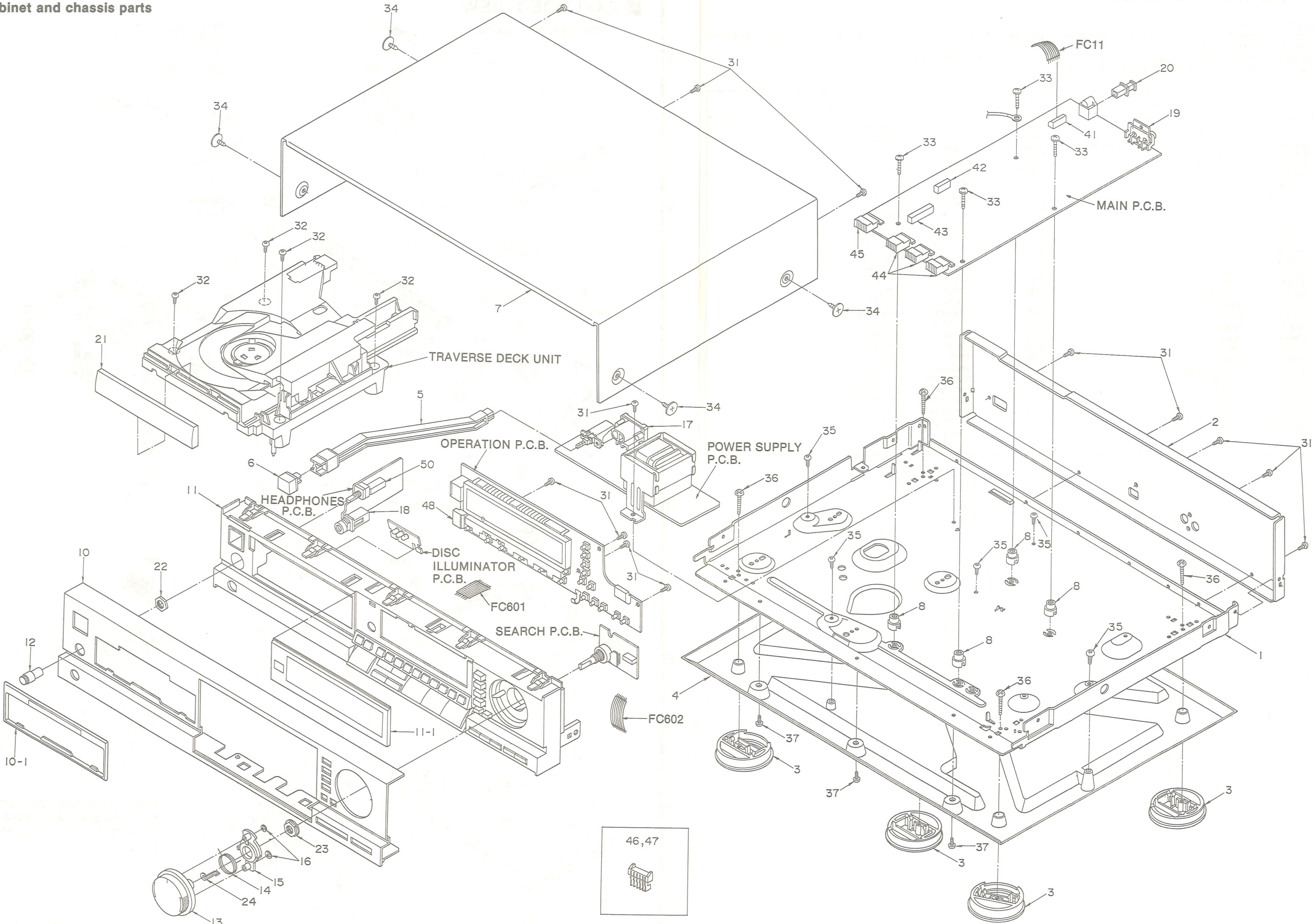
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
CABINET AND CHASSIS			11-1	SGUD223	ORNAMENT
1	SKUD192ZF1A	CHASSIS	12	SBN1161-2	KNOB
2	SGPD771ZF2G	REAR PANEL	12	SBN1161-3	KNOB
(E)			13	SBND110ZCOA	KNOB
2	SGPD771ZF3F	REAR PANEL	13	SBND110MA0A	KNOB
(XA)			14	SUSD162	SPRING
2	SGPLP555-KEB	REAR PANEL	15	SHRD202	SPRING
(EB, EH, EF)			16	CSTW-2	WASHER
(EI)			17	SJSD16	AC INLET
2	SGPLP555-KEG	REAR PANEL	(XL)		
(EG)			17	SJS9236	AC INLET
2	SGPLP555-KEK	REAR PANEL	(E, EB, EK, EG)		
(EK)			(EH, EF, EI)		
2	SGPLP555-KPA	REAR PANEL	(XB, XA, PA)		
(PA, PE, PC)			(PE, PC)		
2	SGPLP555-KXB	REAR PANEL	18	SJJ146B	JACK
(XB)			19	SJFD4	OUTPUT TERMINAL
2	SGPLP555-KZL	REAR PANEL	20	VJA1024	CAP
(XL)			21	SGXD3330ZK0A	ORNAMENT
2	SGPLP555-SEB	REAR PANEL	21	SGXD3330MA0A	ORNAMENT
(EB, EH, EF)			22	XNS7	NUT
(EI)			23	SNE4021	NUT
2	SGPLP555-SEG	REAR PANEL	24	SHR9451	SPACER
(EG)			31	XTB3*8JFZ	SCREW
2	SGPLP555-SEK	REAR PANEL	32	XTB3*8F	SCREW
(EK)			33	XTB3*16JFZ	SCREW
2	SGPLP555-SXL	REAR PANEL	34	SNE2129-1	SCREW
(XL)			34	SNE2129	SCREW
3	SKLD8-E	FOOT	35	XTB3*12G	SCREW
4	SKUD230KFOA	BOTTOM COVER	36	XTB3*20G	SCREW
5	SUBD14	ROD	37	XTB3*10JFZ	SCREW
6	SBC666-1	BUTTON	41	SJT30640LX-V	CONNECTOR (6P), CN11
6	SBC666	BUTTON, POWER	42	SJT30543-V	CONNECTOR (5P), CN401
7	SKCD590KE2	CABINET BODY	43	SJSD2221	SOCKET (22P), CN402
7	SKCD590SW2	CABINET BODY	44	SJS50680WL	SOCKET (6P), CN301~303
8	SHE186-2	HOLDER	45	SJS50780WL	CONNECTOR (7P), CN304
10	SGWLP555-KE	FRONT PANEL ASS'Y	46	SJT30647WL	CONNECTOR (6P), CN601~603
10	SGWLP555-SE	FRONT PANEL ASS'Y	47	SJT30747WL	CONNECTOR (7P), CN604
10-1	SGXLP777-K	ORNAMENT	48	EMCS0750ZL	CONNECTOR, CN605
10-1	SGXLP777-S	ORNAMENT	50	EMCS0750Z	CONNECTOR (7P), CN871
11	SGYLP555-KE	FRONT GRILLE	FC11	SIKD552062	FLAT CABLE
11	SGYLP555-SE	FRONT GRILLE	FC601	SIKD555031	FLAT CABLE
			FC602	SIKD552061	FLAT CABLE

EXPLODED VIEW

Remote control unit parts



• Cabinet and chassis parts



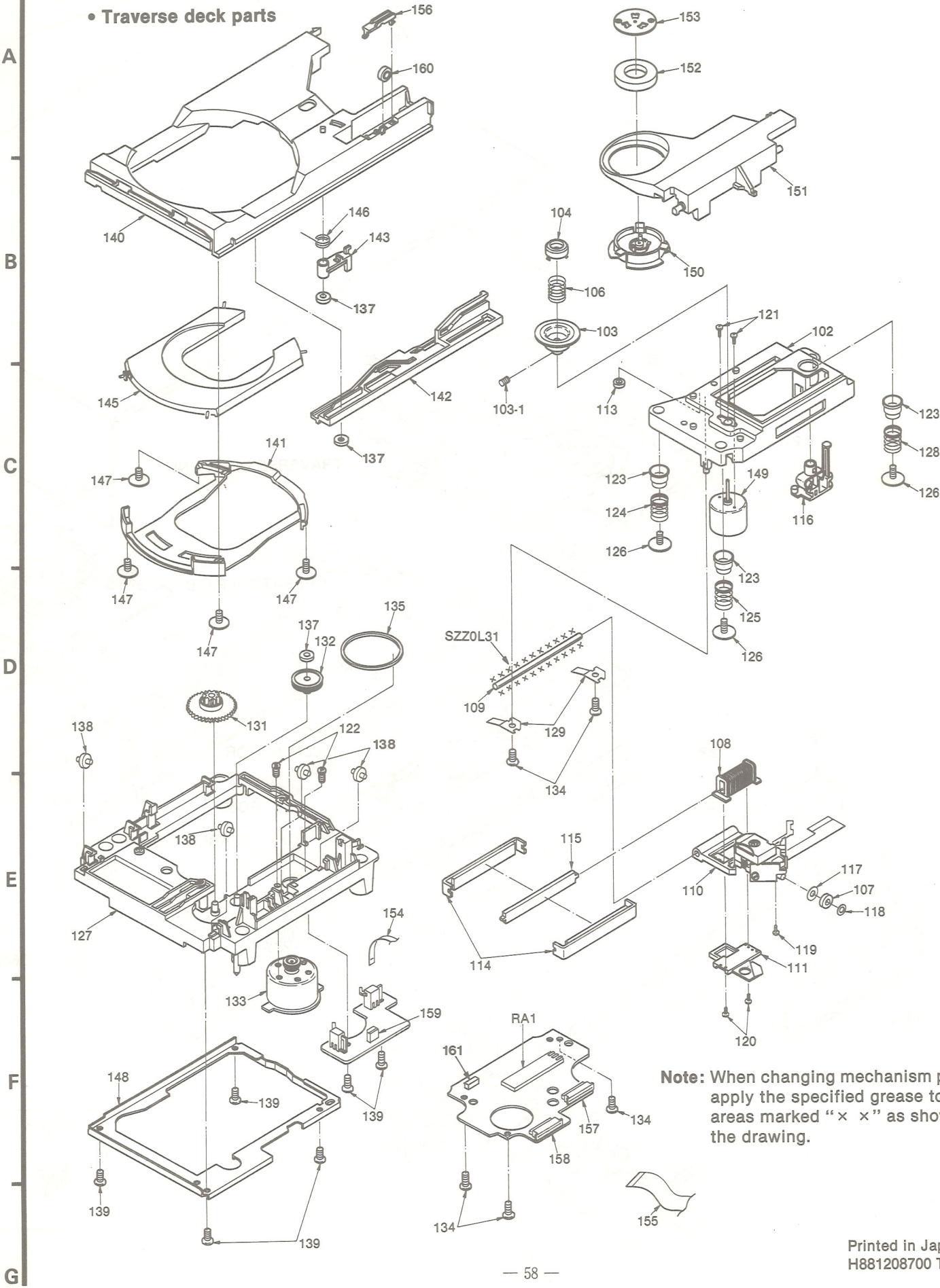
REPLACEMENT PARTS LIST

Notes : * Important safety notice :
Components identified by Δ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)
Parts without these indications can be used for all areas.

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
TRAVERSE			129	SUWD112	GUIDE SHAFT HOLDER
TRAVERSE DECK			131	SDGD58	MAIN GEAR
102	SISD22-1	TRAVERSE BASE	132	SDGD59-2	GEAR
103	SDOD28-1E	TURNABLE	133	SIRD94-E	LOADING MOTOR
103-1	XXE26D5	SCREW	134	XTB3*10G	SCREW
104	SDOD29-2	RING	135	SMBD7	BELT
106	SRQA010N04	SPRING	137	SFUMZ15R61	WASHER
107	SORD37	ROLLER	138	SDRD14	ROLLER
108	SORD38-E	COIL	139	XTB3*8G	SCREW
109	SUXD123-1	GUIDE SHAFT	140	SIRD97-2E	HOLDER
110	Δ S0AD70A	OPTICAL PICKUP	141	SIRD107-1	TRAY BASE
111	SHRD176-E	COIL HOLDER	142	SIRD40-2	RACK GEAR
113	SHGD148	STOPPER	143	SIRD96	LOCK LEVER
114	S0YD21-E	YOKE	145	SIRD98-2	DISC TRAY
115	S0YD22	YOKE	146	SUSD83	SPRING
116	SHRD177-1	LOCK UNIT	147	SNSD36	SCREW
117	SHWD33	WASHER	148	SIWD105	BRACKET
118	SHWD34	WASHER	149	SJGDRF310T-2	SPINDLE MOTOR
119	SNSD31	SCREW	150	SIRD51-1	HOLDER
120	XTN2*5G	SCREW	151	SIRD42-3	LEAD WIRE CLAMP
121	XYN2*C8	SCREW	152	SOMD4	MAGNET
122	XYN26*J6	SCREW	153	S0YD2	YOKE
123	SHGD153-1	CUSHION RUBBER	154	SIKD150051	FLAT CABLE
124	SUSD136-1	SPRING	155	SIKD150221-1	FLAT CABLE
125	SUSD137-1	SPRING	156	SHRD150	ROLLER HOLDER
126	SNSD33	SCREW	157	SJSD1722M	SOCKET(17P)
127	SIWLP555-KN	LOADING BASE	158	SJSD2222M	SOCKET(22P)
128	SUSD145-1	SPRING	159	SJT30543-V	CONNECTOR(5P)
			160	SDRD12	ROLLER
			161	EMCS0552MP	CONNECTOR(5P)

EXPLODED VIEW

• Traverse deck parts



Compact Disc Player

DEUTSCH

SL-P202, P212,
P222, P333,
P555, P777

ELEKTRISCHE JUSTIERUNG

■ Abmessungen und Einstellungen

Achtung:

- Vermeiden Sie den Laserstrahl direkt anzublicken oder zu berühren, weil hohe Gefahr besteht. (Laserstrahlen sind unsichtbar). Während die CD-Einheit auf ON geschaltet ist, werden Laserstrahlen aus der Aufnahmelinse emittiert. Vermeiden Sie direkte Aussetzung von den Laserstrahlen besonders bei Einstellungsoperationen.

Vorbereitung

1. Beseitigen Sie das Kabinett (Siehe Ref. Nr. 1 des Wartungshandbuchs).
2. Beseitigen Sie den CD-Klemmer und Magnet (Siehe Ref. Nr. 2 des Wartungshandbuchs).
3. Beseitigen Sie den CD-Plattenhalter und Stromschalterstab (Siehe Ref. Nr. 3 des Wartungshandbuchs).
4. Setzen Sie die Test-CD-Platte und Magnet auf die Drehplatte.
5. Schalten Sie die CD-Einheit auf ON.
6. Drücken Sie zuerst den OPEN/CLOSE Schalter S102 in Pfeilrichtung, und danach (innerhalb von 4 Sekunden) drücken Sie den Schalter S101 in Pfeilrichtung, wie abgebildet.

Meßinstrumente und Fachgeräte

- Servoverstärkerregler (SZZP1017F oder SZZP1094C)
- Test-CD Platte
- 1. Test-CD-Platte (SZZP1054C oder SZZP1014F)
- 2. Unregelmäßige Test-CD-Platte (SZZP1056C)
- 3. Schwarzbandtest-CD-Platte (SZZP1057C)

- Normale CD-Platte
- Doppelstrahloszilloskop mit 30 MHz Bandbreite oder höher (zusammen mit EXT Auslöser und 1:1 Sonde)
- Tonfrequenzoszillator (AF)
- Konversionsanschluß (SZZP1032F)
- Allen Schraubendreher (M2,0)
- Allen Schraubendreher (M1,27)
- 0,9 mm Umgrenzungslehre (RZZ0297)

Führen Sie die Einstellungen an den Teilen die ersetzt werden wie folgend durch:

- (1) Spindelmotor Teile 1,3 bis 8
- (2) Drehplatte Teile 1,3 bis 8
- (3) Optischer Tonabnehmer Teile 2 bis 8

Einstellungsverfahren

- Falls Sie den Spindelmotor oder die Drehplatte ersetzt haben, gehen Sie wie folgend durch:

(1) Einstellung des Zwischenraumes der Drehplatte

1. Setzen Sie die 0,9 mm Umgrenzungslehre (RZZ0297) zwischen der Drehplatte und der CD-Empfangsgrundplatte (Siehe Abbildung rechts).
2. Ziehen Sie die Schraube der Drehplatte mit dem 1,27 mm Allen Schraubendreher fest.
3. Schließen Sie die CH. 1 Prüfungs-sonde des Oszilloskops durch die Terminale VR104 **FEG** (+) und durch VR106 **V.REF** (-) über einen Filter an.
(Anmerkung: Eine Voltzahl von 2,5 V befindet sich am Terminal V. REF. Bitte achten Sie darauf, daß Sie das Chassis der CD-Einheit mit dem Oszilloskop nicht berühren um einen Kurzschluß zu vermeiden).

Einstellung des Oszilloskops:

VOLT 50 mV

SWEEP 1 ms.

Eingabekopplung DC

4. Stellen Sie den DC Nullausgleich des Oszilloskops ein.

5. Schalten Sie den Plattenspieler auf **ON** und spielen Sie die Test-CD-Platte SZZP1014F oder SZZP1054C ab.
6. Messen Sie die Spannungsamplitude der Signal auf dem Oszilloskop ab.

Anmer-

- kung 1. Falls die bemessene Amplitude zwischen den Werten von ± 15 mV sich bewegt, liegt die höhe der Drehplatte richtig. Falls die Amplitude außer den oben genannten Werten liegt, stellen Sie die Höhe der Drehplatte mit Hilfe der Umgrenzungslehre ein.

Falls die Amplitude $+15$ mV überschreitet, setzen Sie die Drehplatte etwas herab.

Falls die Amplitude -15 mV unterschreitet, setzen Sie die Drehplatte etwas herauf.

Anmer-

- kung 2. Falls die bemessene Amplitude weit über oder unter den oben benannten Werte übertrifft, setzen Sie **VR105** genau oder in der Nähe der Mitte und versuchen Sie erneut die Höhe einzustellen (Vergewissern Sie sich, daß Sie gleichzeitig die Fokusausschweichung mit einstellen sollen).

(2) Mechanische Einstellung

1. Schließen Sie die CH. 1 Prüfungs-sonde des Oszilloskops durch **TJ101** (+) und durch **TJ102** (-) des Servos P.C.B. an.

Einstellung des Oszilloskops:

VOLT 100 mV

SWEEP 0,5 µs.

Eingabekopplung AC

2. Schalten Sie den Plattenspieler auf **ON** und spielen Sie die Spur 9 auf der Test-CD-Platte (SZZP1056C).

3. Stellen Sie die CD-Einheit im Betriebsmodus und setzen Sie die Einheit wie rechts abgebildet.
4. Stellen Sie beide mechanische Einstellungsschrauben mit dem 2,0 mm Allen-Schraubendreher abwechselnd ein, bis die Amplitudevariation der RF-Signale des Oszilloskops auf das Minimum gebracht wird.
5. Nach der Einstellung, verschließen Sie die mechanische Einstellungen mit dem Siegelack RZZOL01 dicht ab.

(3) "BEST EYE" (PD Ausgleich) Einstellung

1. Schließen Sie die CH. 1 Prüfungs-sonde des Oszilloskops durch **TJ101** (+) und durch **TJ102** (-) des Servos P.C.B. an.

Einstellung des Oszilloskops:

VOLT 100 mV (CH. 1)

SWEEP 0.5 ms.

Eingabekopplung AC

2. Schalten Sie den Plattenspieler auf **ON** und spielen Sie den 0,5 mm schwarzen Punkt auf der Test-CD-Platte SZZP1014F oder SZZP1054C ab.
3. Stellen Sie den **VR101** bis die RF-Signalausgangsmusteramplitude maximal liegt.

4) Fokusstärkeeeinstellung

1. Schließen Sie die Servoverstärkerregelung an dem CD-Plattenspieler an. (Siehe Seite 7.)
2. Setzen Sie den Verstärkungsschalter der Servoverstärkerregelung auf Position "2" ein und den ON/OFF Schalter auf **ON**.
3. Setzen Sie die Oszillatorausgabe für **825 Hz, 150 mVp-p**, und schliessen Sie diesen an den OSC und GND Terminale des Servoverstärkerreglers an.
4. Schließen Sie die CH. 1 und CH. 2 Prüfungs-sonden des Oszilloskops an die entsprechenden Terminale der Servoverstärkerreglers TP1 und TP2 an. (TP3 ist Erde)

Einstellung des Oszilloskops:

VOLT 100 mV

SWEEP 1 ms.

Eingabekopplung AC

5. Spielen Sie die Test-CD-Platte (SZZP1014F oder SZZP1054C) ab.
6. Setzen Sie den Verstärkungsschalter der Servoverstärkerregelung auf Position "3" ein um eine 825 Hz-Signal auf dem Oszilloskop sehen zu können. Stellen Sie den **VR104** ein bis die Signalamplitude an beide Kanäle gleich werden.
7. Setzen Sie den Verstärkungsschalter zur Position "2" wieder ein.

(5) Spurstärkeeeinstellung

1. Setzen Sie die Oszillatorausgabe für **1,1 kHz, 150 mVp-p**, und schließen Sie diesen an den OSC und GND Terminale des Servoverstärkerreglers.
2. Schließen Sie die CH. 1 und CH. 2 Prüfungs-sonden des Oszilloskops an die entsprechenden Terminale der Servoverstärkerreglers TP1 und TP2. (TP3 ist Erde)

Einstellung des Oszilloskops:

VOLT 100 mV

beide Kanäle

SWEEP 1 ms.

Eingabekopplung AC

3. Schalten Sie den Plattenspieler auf **ON** und spielen Sie die Test-CD-Platte SZZP1014F oder SZZP1054C ab.
4. Setzen Sie den Verstärkungsschalter der Servoverstärkerregelung auf Position "1" ein und Sie werden eine 1.1 kHz-Signal auf dem Oszilloskop sehen. Stellen Sie den **VR102** ein bis die Signalamplitude an beide Kanäle gleich werden.
5. Setzen Sie den Verstärkungsschalter an Position "2" wieder ein.

(6) Einstellung der Fokusausschweichung

Anmerkung: Vergewissern Sie sich, daß der Verstärkungsschalter der Servoverstärkerregelung sich in Position "2" befindet.

1. Schließen Sie die CH. 1 Prüfungs-sonde des Oszilloskops durch **TJ101** (+) und durch **TJ102** (-) des Servos P.C.B. und die CH. 2 Sende (+) mit dem **FEG** Terminal des VR104 an.

Einstellung des Oszilloskops:

VOLT 100 mV (CH. 1)

SWEEP 0,5 ms.

Eingabekopplung AC (beide CH. 1 und CH. 2)

Auslösermodus NORM (Auslöser CH. 1)

2. Schalten Sie den Plattenspieler auf **ON** und spielen Sie die Spur No. 9 auf der Test-CD-Platte SZZP1057C ab.
3. Lösen Sie die Sonde CH. 1 des Oszilloskops in solcher Weise, daß folgende Wellenformen beobachtet werden können. Stellen Sie den **VR105** ein bis die Inklination der Hülle des RF-Signals der CH. 1 sanft herabsagt und die Signalamplitude der CH. 2 auf das Minimum kommt, d.h., daß der Wert der Amplitude A den von Amplitude B entspricht.

2. Schalten Sie den Plattenspieler auf **ON** und spielen Sie die Spur No. **9** auf der Test-CD-Platte SZZP1057C ab.
3. Lösen Sie die Sonde CH. 1 des Oszilloskops in solcher Weise, daß folgende Wellenformen beobachtet werden können. Stellen Sie den **VR103** ein bis die Inklination der Hülle des RF-Signals der CH. 1 sanft herabsagt und die Signalamplitude der CH. 2 auf das Minimum kommt d. H., daß der Wert der Amplitude A den von Amplitude B entspricht.

4. Schalten Sie den Plattenspieler auf **ON** und spielen Sie die Test-CD-Platte SZZP1014F oder SZZP1054C ab.
5. Setzen Sie den Verstärkungsschalter der Servoverstärkerregelung auf Position "**1**" ein und stellen Sie **VR106** bis das Zittern der Signalwellenform auf CH. 1 auf das Minimum gebracht wird wie unten gezeigt.
6. Schalten Sie die Servoverstärkerregelungsanschlüsse von der CD-Einheit ab.

1. Spielen Sie die defektive Test-CD-Platte (SZZP1054C) an dem 0,9 mm schwarzen Punkt und an dem 0,7 mm Keil und prüfen Sie nach, daß weder Töne übergesprungen werden noch irgendeine Geräusche entstehen.
2. Spielen Sie die mittleren Spuren der unregelmäßigen defektiven Test-CD-Platte und prüfen Sie nach, daß weder Töne übergesprungen werden noch irgendeine Geräusche entstehen.

REGLAGES ELECTRIQUES

■ Mesure et réglage

Attention:

- Il est très dangereux de voir ou de toucher le rayon laser. (Le rayonnement laser est invisible.)

Une fois l'appareil mis sur la position "marche" (on), le rayon laser est émis de la lentille de la tête de lecture. Eviter donc l'exposition au rayon laser lors du réglage en particulier.

PREPARATION

1. Enlever le coffret (voir Ref. N° 1 dans le Manuel d'Entretien original).
2. Enlever le crampon de disque et l'aimant (voir Ref. N° 2 du même Manuel).
3. Enlever le support de disque et la tige d'interrupteur général (voir Ref. N° 2 du même Manuel).

4. Mettre le disque d'essai et l'aimant en place sur la platine tourne-disque.
5. Mettre le lecteur de disques sur la position "marche".
6. Pousser d'abord le commutateur ouverture/fermeture S102 dans la direction de la flèche, puis avant 4 secondes, pousser le commutateur S101 dans la direction de la flèche comme il est indiqué sur la figure.

Instruments de mesure et outils spéciaux

- Servorégleur de gain (SZZP1017F ou SZZP1094C)
 - Disque d'essai
1. Disque d'essai de possibilité de lecture (SZZP1054C ou SZZP1014F)
 2. Disque d'essai d'inégalité (SZZP1056C)
 3. Disque d'essai de bande noire (SZZP1057C)
 - Disque normal
 - Oscilloscope double trace avec une largeur de bande de 30 MHz ou plus (avec déclencheur EXT et sonde 1:1)

- Oscillateur pour audiofréquences (AF)
- Connecteur de conversion (SZZP1032F)
- Clef hexagonale (M2, 0)
- Clef hexagonale (M1, 27)
- Calibre de tolérance de 0,9 mm (RZZ0297)

Le réglage doit être effectué selon la pièce remplacée, comme il est indiqué ci-dessous.

- (1) Moteur à broche Articles 1, 3 à 8
- (2) Platine tourne-disque Articles 1, 3 à 8
- (3) Tête de lecture optique Articles 2 à 8

Procédure de réglage

- Après avoir remplacé le moteur à broche ou la platine tourne-disque, effectuer le réglage suivant:

(1) Réglage de hauteur de platine tourne-disque

1. Introduire le calibre de tolérance de 0,9 mm (RZZ0297) entre la platine tourne-disque et la base de charge (voir la figure à droite).
2. Serrer la vis de fixation de platine tourne-disque à l'aide de la clef hexagonale de 1,27 mm.
3. Raccorder les bornes **FEG** (+) de VR104 et **V.REF** (–) de VR106 de la sonde de voie 1 (CH. 1) de l'oscilloscope par un filtre.

(Remarque: Une tension de 2,5 V apparaît à la borne V.REF. Veiller donc à ne pas court-circuiter le châssis du lecteur de disques et la terre de l'oscilloscope.)

Réglage de l'oscilloscope:

Tension (VOLT) 50 mV

Dent de scie (SWEEP) 1 ms.

Couplage d'entrée courant continu

4. Régler la balance nulle à courant continu de l'oscilloscope.

5. Mettre le lecteur de disques sur la position "marche" (ON), et commencer à lire le disque d'essai (SZZP1014F ou SZZP1054C).

6. Mesurer l'amplitude de tension du signal sur l'oscilloscope.

Remarque 1. Si l'amplitude mesurée est dans une fourchette de ± 15 mV, la hauteur de platine tourne-disque est correcte. Par contre, si elle est en dehors de cette fourchette, régler la hauteur de platine tourne-disque en utilisant le calibre de tolérance comme un levier.

Si l'amplitude dépasse +15 mV, abaisser la platine tourne-disque.

Si l'amplitude est inférieure à –15 mV, élever la platine tourne-disque.

Remarque 2. Si l'amplitude mesurée est largement supérieure ou inférieure à la fourchette mentionnée ci-dessus, régler VR105 au centre ou à ses environs, puis essayer de nouveau de régler la hauteur. (Ne pas omettre alors de régler également le foyer.)

(2) Réglage mécanique

1. Raccorder les bornes **TJ101** (+) et **TJ102** (–) de la sonde de voie 1 (CH. 1) de l'oscilloscope sur la plaquette de circuit imprimé auxiliaire.
Réglage de l'oscilloscope:
Tension (VOLT) 100 mV
Dent de scie (SWEEP) 0,5 ms.
Couplage d'entrée courant alternatif
2. Mettre le lecteur de disques sur la position “marche” (**ON**), et commencer à lire la voie **9** du disque d'essai (SZZP1058C).
3. Laisser le lecteur de disques en mode de lecture (PLAY), et le mettre en place comme il est indiqué sur la figure à droite.
4. Régler alternativement les deux vis de réglage mécanique à l'aide de la clef hexagonale de 2,0 mm jusqu'à ce que la variation d'amplitude de signaux de radiofréquence sur l'oscilloscope soit minimisée.

(3) Réglage de la meilleure mire (balance PD)

1. Raccorder les bornes **TJ101** (+) et **TJ102** (–) de la sonde de voie 1 (CH. 1) de l'oscilloscope sur la plaquette de circuit imprimé auxiliaire.
Réglage de l'oscilloscope:
Tension (VOLT) 100 mV
Dent de scie (SWEEP) 0,5 ms.
Couplage d'entrée courant alternatif
2. Mettre le lecteur de disques sur la position “marche” (**ON**), et commencer à lire le point noir de 0,5 mm sur le disque d'essai (SZZP1014F ou SZZP1054C).
3. Régler **VR101** jusqu'à ce que l'amplitude de mire de signaux de radiofréquence soit maximisée.

(4) Réglage du gain de foyer

1. Raccorder le servorégleur de gain au lecteur de disques (voir page 7).
2. Mettre le commutateur de gain du servorégleur de gain sur la position “2” et l'interrupteur marche/arrêt sur la position “marche” (**ON**).
3. Régler la puissance de sortie de l'oscillateur pour audiofréquences sur **825 Hz, 150 mVp.p.**, et raccorder les bornes OSC (oscillateur) et GND (terre) de ce dernier sur le servorégleur de gain.
4. Raccorder respectivement les sondes de la voie 1 (CH. 1) et la voie 2 (CH. 2) de l'oscilloscope aux bornes TP1 et TP2 du servorégleur de gain [TP3 est la terre (GND)].
Réglage de l'oscilloscope:
Tension (VOLT) 100 mV (pour les deux voies)
Dent de scie (SWEEP) 1 ms.
Couplage d'entrée courant alternatif
5. Commencer à lire le disque d'essai (SZZP1014F ou SZZP1054C).
6. Mettre le commutateur de gain du servorégleur de gain sur la position “3”. Un signal de 825 Hz sera alors observé sur l'oscilloscope. Régler **VR104** jusqu'à ce que les amplitudes de signaux des deux voies soient identiques l'une à l'autre.
7. Remettre le commutateur de gain sur la position “2”.

(5) Réglage du gain de piste

1. Régler la puissance de sortie de l'oscillateur pour audiofréquences sur **1,1 kHz, 150 mVp.p.**, et raccorder les bornes OSC (oscillateur) et GND (terre) de ce dernier sur le servorégleur de gain.
2. Raccorder respectivement les sondes de la voie 1 (CH. 1) et la voie 2 (CH. 2) de l'oscilloscope aux bornes TP1 et TP2 du servorégleur de gain [TP3 est la terre (GND)].
Réglage de l'oscilloscope:
Tension (VOLT) 100 mV (pour les deux voies)
Dent de scie (SWEEP) 1 ms.
Couplage d'entrée courant alternatif
3. Mettre le lecteur de disques sur la position “marche” (**ON**), et commencer à lire le disque d'essai (SZZP1014F ou SZZP1054C).
4. Mettre le commutateur de gain du servorégleur de gain sur la position “1”. Un signal de 1,1 kHz sera alors observé sur l'oscilloscope. Régler **VR102** jusqu'à ce que les amplitudes de signaux des deux voies soient identiques l'une à l'autre.
5. Remettre le commutateur de gain sur la position “2”.

(6) Réglage de décalage de foyer

Remarque: S'assurer que le commutateur de gain du servorégleur de gain est mis sur la position “2”.

1. Raccorder les bornes **TJ101** (+) et **TJ102** (–) de la sonde de voie 1 (CH. 1) de l'oscilloscope sur la plaquette de circuit imprimé auxiliaire, et raccorder également la sonde de voie 2. (CH. 2) et la borne **FEG** de VR104.
Réglage de l'oscilloscope:
Tension (VOLT) 100 mV (voie 1)
100 mV (voie 2)
Dent de scie (SWEEP) 0,5 ms.
Couplage d'entrée courant alternatif (pour les deux voies)
Mode de déclenchement NORM (voie 1 de déclenchement)
2. Mettre le lecteur de disques sur la position “marche” (**ON**), et commencer à lire la voie **9** du disque d'essai (SZZP1057C).
3. Déclencher la voie 1 (CH. 1) de l'oscilloscope pour que les formes d'onde suivantes soient observées. Régler **VR105** jusqu'à ce que l'inclinaison dans l'enveloppe de signaux de radiofréquence sur la voie 1 (CH. 1) soit en douceur et que l'amplitude de signaux de la voie 2 (CH. 2) soient minimisée, c'est-à-dire que l'amplitude A soit égale à celle B.

(7) Réglage de décalage de voie

Remarque: S'assurer que le commutateur de gain du servorégleur de gain est mis sur la position “2”.

1. Raccorder les bornes **TJ101** (+) et **TJ102** (–) de la sonde de voie 1 (CH. 1) de l'oscilloscope sur la plaquette de circuit imprimé auxiliaire, et raccorder également la sonde de voie 2. (CH. 2) et la borne **TEG** de VR102.
Réglage de l'oscilloscope:
Tension (VOLT) 100 mV (voie 1)
200 mV (voie 2)
Dent de scie (SWEEP) 0,5 ms.
Couplage d'entrée courant alternatif (pour les deux voies)
Mode de déclenchement NORM (voie 1 de déclenchement)
2. Mettre le lecteur de disques sur la position “marche” (**ON**), et commencer à lire la voie **9** du disque d'essai (SZZP1057C).
3. Déclencher la voie 1 (CH. 1) de l'oscilloscope pour que les formes d'onde suivantes soient observées. Régler **VR103** jusqu'à ce que l'inclinaison dans l'enveloppe de signaux de radiofréquence sur la voie 1 (CH. 1) soit en douceur et que l'amplitude de signaux de la voie 2 (CH. 2) soient minimisée, c'est-à-dire que l'amplitude A soit égale à celle B.

(8) Réglage de balance de voie

1. S'assurer que le commutateur de gain du servorégleur de gain est mis sur la position “2”.
2. Régler la puissance de sortie de l'oscillateur pour audiofréquences sur **1,1 kHz, 600 mVp.p.**, et raccorder les bornes OSC (oscillateur) et GND (terre) de ce dernier sur le servorégleur de gain.
3. Raccorder les bornes **TJ101** (+) et **TJ102** (–) de la sonde de voie 1 (CH. 1) de l'oscilloscope sur la plaquette de circuit imprimé auxiliaire, et raccorder également la sonde de voie 2. (CH. 2) et la borne OSC sur le servorégleur de gain.
Réglage de l'oscilloscope:
Tension (VOLT) 100 mV (voie 1)
Dent de scie (SWEEP) 0,5 ms.
Couplage d'entrée courant alternatif (pour les deux voies)
Mode de déclenchement NORM (voie 2 de déclenchement)
4. Mettre le lecteur de disques sur la position “marche” (**ON**), et commencer à lire le disque d'essai (SZZP1014F ou SZZP1054C).
5. Mettre le commutateur de gain du servorégleur de gain sur la position “1”, et régler **VR106** jusqu'à ce que le vacillement contenu dans la forme d'onde de la voie 1 (CH. 1) soit minimisé comme il est indiqué ci-dessous.
6. Débrancher les conducteurs du servorégleur de gain du lecteur de disques.

(9) Contrôle de fonctionnement de lecture après réglage**●Contrôle de la recherche par sauts**

1. Lire un disque de programme musical ordinaire.
2. Appuyer sur la touche de saut pour contrôler le fonctionnement normal de recherche par sauts (dans les directions vers l'avant et vers l'arrière).

●Contrôle de la recherche manuelle

1. Lire un disque de programme musical ordinaire.
2. Appuyer sur la touche de recherche manuelle pour contrôler le fonctionnement normal de recherche manuelle à vitesse réduite ou élevée (dans les directions vers l'avant et vers l'arrière).

●Contrôle de l'utilisation d'un disque défectueux

1. Lire le point noir de 0,7 mm et le coin de 0,7 mm sur le disque d'essai défectueux (SZZP1054C), et vérifier qu'il ne se produit aucun saut sonore ou bruit.
2. Lire les voies du milieu du disque d'essai inégal, et vérifier qu'il ne se produit aucun saut sonore ou bruit.

ESPAÑOL

AJUSTE ELECTRICO

■ MEDICIONES Y AJUSTES

Precaución:

- Es muy peligroso mirar directamente o tocar los rayos de láser (Las radiaciones de láser son invisibles.) Cuando el aparato está encendido las radiaciones de láser son emitidas desde el lente de captación. Evite exponerse a los rayos de láser, especialmente mientras realice los ajustes.

PREPARACION

1. Quite la cabina (ver el número de referencia 1 en el manual de servicio original).
2. Quite el freno del disco y el imán (ver el número de referencia 2 del mismo manual).
3. Quite el soporte del disco y la barra del interruptor de corriente (ver el número de referencia 3 del mismo manual).
4. Coloque el disco de prueba e imán en el tornamesa.
5. Encienda el aparato.
6. Primero empuje el conmutador OPEN/CLOSE (S102) en la dirección de la flecha y luego, dentro de un lapso de 4 segundos, empuje el conmutador S101 en la dirección de la flecha como se muestra en la figura.

Instrumentos de medición y herramientas especiales

- Ajustador de servogancia(SZZP1017F o SZZP1094C)
- Discos de prueba

1. Disco para pruebas de reproducción (PLAY) (SZZP1054C o SZZP1014F).
 2. Disco de superficie no uniforme para pruebas (SZZP1056C).
 3. Disco de banda negra para pruebas (SZZP1057C)
- Disco normal
 - Osciloscopio de dos canales con amplitud de banda de 30 MHz o mejorada (con "disparador" EXT y sonda de 1:1)

- Oscilador de frecuencia de audio (FA)
- Conector de conversión (SZZP1032F)
- Llave Allen (M2.0)
- Llave Allen (M1.27)
- Calibrador de 0.9 mm (RZZ0297)

Los ajustes a ejecutar dependen de las partes a ser remplazadas de acuerdo a lo siguiente:

- (1) Motor del eje Items 1, y del 3 al 8
- (2) Tornamesa Items 1, y del 3 al 8
- (3) Captador óptico Items del 2 al 8

Procedimiento de ajuste

- Si ha remplazado el motor del eje o tornamesa, realice los siguientes ajustes:

(1) AJUSTE DE LA ALTURA DEL TORNAMESA

1. Introduzca el calibrador de 0.9 mm (RZZ0297) entre el tornamesa y la base de carga (ver la figura a la derecha).
2. Ajuste el tornillo de retención del tornamesa con la llave Allen de 1.27 mm.
3. Conecte la sonda CH.1 del osciloscopio al **FEG** (+) del VR104 y el **V.REF** (–) del VR106 mediante un filtro. (Nota: Un voltaje de 2.5 voltios aparecerá en el terminal V.REF. Tener cuidado de que no se establezca un corto circuito entre el chasis del aparato y el conductor de tierra del osciloscopio).

Ajustes en el osciloscopio:

Voltaje 50 mV
 "Sweep" 1 ms
 "Coupling" de entrada CD

(2) AJUSTES MECANICOS

1. Conecte la sonda CH1 del osciloscopio al TJ101 (+) y TJ102 (–) en el P.C.B. Servo.

Ajustes en el osciloscopio:

Voltaje 100 mV
 "Sweep" 0.5 μs.
 "Coupling" de entrada CA

2. Encienda el aparato, y reproduzca la banda 9 en el disco de prueba (SZZP1056C).

(3) AJUSTE VISUAL OPTIMO (EQUILIBRIO DE PD)

1. Conecte la sonda CH.1 del osciloscopio al **TJ101** (+) y **TJ102** (–) en el P.C.B. Servo.

Ajustes en el osciloscopio:

Voltaje 100 mV
 "Sweep" 0.5 μs.
 "Coupling" de entrada CA

(4) AJUSTE DE LA GANANCIA DE ENFOQUE

1. Conecte el ajustador de servogancia al aparato (ver la página 7).
2. Coloque el conmutador del ajustador de ganancia en la posición "2" y el interruptor ON/OFF en **ON**.
3. Ajuste la emisión del oscilador AF en **825 Hz, 150 mVp-p** y conéctelo a los terminales OSC y GND del ajustador de ganancia del servo.
4. Conecte las sondas CH.1 y CH.2 del osciloscopio a los terminales TP1 y TP2 del ajustador de servogancia respectivamente (el TP3 es para tierra).

Ajuste en el osciloscopio:

Voltaje 100 mV
 (ambos canales)
 "Sweep" 1 ms
 "Coupling" de entrada CA

4. Ajuste el balance cero DC del osciloscopio.
5. Encienda el aparato y reproduzca el disco de prueba (SZZP1014F o SZZP1054C).
6. Mida la amplitud del voltaje de la señal en el osciloscopio.

Nota 1. Si la amplitud medida está en el rango de +/- 15 mV, la altura del tornamesa es correcta. Si está fuera de este rango, ajuste la altura del tornamesa usando el calibrador como palanca.

Si la amplitud excede los +15 mV, baje el tornamesa. Si la amplitud es menor de –1 mV, eleve el tornamesa.

Nota 2. Si la amplitud medida, sobrepasa o está muy por debajo del rango arriba indicado, coloque el VR105 en o cerca del centro, y luego trate de ajustar la altura de nuevo.
 (Luego ajuste la compensación del foco.)

3. Con el aparato en el modo de reproducción, colóquelo en la posición indicada en la figura de la derecha.
4. Ajuste de manera alternada los dos tornillos de ajuste mecánicos con la llave Allen de 2.0 mm hasta que la señal RF de la variación de amplitud en el osciloscopio sea mínima.
5. Despues de completar los ajustes, selle los ajustes mecánicos con la pintura RZZOL01.

2. Encienda el aparato y reproduzca el punto negro de 0.5 mm del disco de prueba (SZZP1014F O SZZP1054C).
3. Ajuste el **VR101** hasta que la amplitud del patrón de "ojo" de la señal RF sea máxima.

5. Reproduzca el disco de prueba (SZZP1014F o SZZP1054C).
6. Coloque el conmutador del ajustador de ganancia en la posición "3" y verá una señal de 825 Hz en el osciloscopio. Ajuste el **VR104** hasta que las amplitudes de la señal en ambos canales sean idénticas unas a otras.
7. Coloque otra vez el conmutador de ganancia en la posición "2".

(5) AJUSTE DE LA GANANCIA DEL SEGUIMIENTO (TRACKING)

1. Ajuste la salida del oscilador de FA en **1.1 kHz**. **150 mVp-p** y conéctelo a los terminales OSC y GND del ajustador de servogancia.
2. Coloque las sondas CH. 1 y CH. 2 del osciloscopio en los terminales TP1 y TP2 del ajustador de ganancia, respectivamente (el TP3 es de tierra).

Ajustes en el osciloscopio:

Voltaje 100 mV
(ambos canales)
"Sweep" 1 ms
"Coupling" de entrada CA

3. Encienda el aparato y reproduzca el disco de prueba (SZZP1014F o SZZP1054C).
4. Coloque el conmutador del ajustador de ganancia en la posición "1" verá una señal de 1,1 kHz en el osciloscopio. Ajuste el **VR102** hasta que las amplitudes de la señal en ambos canales sean idénticas unas a otras.
5. Coloque otra vez el conmutador de ganancia en la posición "2".

(6) AJUSTE DE LA COMPENSACION DEL ENFOQUE

Nota: Asegúrese de que el conmutador del ajustador de servogancia esté colocado en la posición "2".

1. Conecte la sonda CH. 1 del osciloscopio al **TJ101** (+) y **TJ102** (-) del P.C.B. Servo y la sonda CH. 2 (+) al terminal **FEG** del VR104.

Ajustes en el osciloscopio:

Voltaje 100 mV (CH. 1)
100 mV (CH. 2)
"Sweep" 0,5 ms
"Coupling" de entrada CA
(ambos canales 1 y 2)
Modalidad de disparo NORMAL
(disparo del CH. 1)

2. Encienda el aparato y reproduzca la banda 9 del disco de prueba (SZZP1057C).
3. Dispare el CH. 1 del osciloscopio de tal manera que las siguientes ondas aparezcan. Ajuste el **VR103** hasta que la base de la envoltura de la señal RF en el CH. 1 sea uniforme y la amplitud de la señal en el CH. 2 sea mínima, es decir, cuando la amplitud A sea igual a la amplitud B.

(7) AJUSTE DE LA COMPENSACION DEL SEGUIMIENTO (TRACKING)

Nota: Asegúrese de que el conmutador del ajustador de servogancia esté colocado en la posición "2".

1. Conecte la sonda CH. 1 del osciloscopio al **TJ101** (+) y **TJ102** (-) del P.C.B. Servo y la sonda CH. 2 (+) al terminal **TEG** del VR102.

Ajustes en el osciloscopio:

Voltaje 100 mV (CH. 1)
200 mV (CH. 2)
"Sweep" 0,5 ms
"Coupling" de entrada CA
(ambos canales 1 y 2)
Modalidad de disparo NORMAL
(disparo del CH. 1)

2. Encienda el aparato y reproduzca la banda 9 del disco de prueba (SZZP1057C).
3. Dispare el CH. 1 del osciloscopio de tal manera que las siguientes ondas aparezcan. Ajuste el **VR103** hasta que la base de la envoltura de la señal RF en el CH. 1 sea uniforme y la amplitud de la señal en el CH. 2 sea mínima, es decir, cuando la amplitud A sea igual a la amplitud B.

(8) AJUSTE DEL BALANCE DEL SEGUIMIENTO (TRACKING)

1. Asegúrese de que el conmutador del ajustador de servogancia esté colocado en la posición "2".

2. Ajuste la salida del oscilador de FA en **1,1 kHz**, **600 mVp-p** y conéctelo a los terminales OSC y GND del ajustador de servogancia.
3. Conecte la sonda CH. 1 del osciloscopio al **TJ101** (+) y al **TJ102** (-) del P.C.B. Servo y la sonda CH. 2 (+) al terminal OSC del ajustador de servogancia.

Ajustes en el osciloscopio:

Voltaje 100 mV (CH. 1)
"Sweep" 0.5 ms
"Coupling" de entrada CA
(ambos canales 1 y 2)
Modalidad de disparo NORMAL
(disparo del CH. 2)

4. Encienda el aparato, y reproduzca el disco de prueba (SZZP1014F o SZZP1054C).
5. Coloque el conmutador del ajustador de servogancia en la posición "1" y ajuste el **VR106** hasta que las irregularidades de las ondas de la señal en el CH. 2 sea mínima como se muestra más abajo.
6. Desconecte el ajustador de servogancia del aparato.

(9) COMPROBACION DE LA FUNCION DE REPRODUCCION DESPUES DE LOS AJUSTES

•Comprobación de la localización de salto

1. Reproduzca un disco de programa musical ordinario.
2. Presione el botón de salto para comprobar la función normal de localización de salto (en ambas direcciones, de avance y retroceso).

•Comprobación de la localización manual

1. Reproduzca un disco de programa musical ordinario.
2. Presione el botón de localización manual para comprobar las funciones de localización manual a velocidad lenta o alta (en ambas direcciones, de avance y retroceso).

•Comprobación mediante el empleo de un disco defectuoso

1. Reproduzca el punto negro de 0,7 mm y el patrón de "cuña" de 0,7 mm del disco defectuoso de prueba (SZZP1054C) y compruebe de que no ocurran saltos ni ruidos.
2. Reproduzca las bandas intermedias del disco de prueba de superficie no uniforme para pruebas y verifique que no ocurran saltos ni ruidos.